

分类号: H315.9
密 级: 公开

学校代码: 10363
学 号: 2211210112



安徽工程大学

Anhui Polytechnic University

硕士学位论文

题 目 《人类历史上的火山》（第三
章）英汉翻译践报告

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专业学位类别 翻译硕士
研究方向（领域）英语笔译（文化艺术翻译）

论文提交日期: 2024 年 6 月 1 日

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翻译实践报告

A Report on the E-C Translation Practice
of *Volcanoes in Human History* (Chapter 3)

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论文答辩日期: 2024 年 5 月

A Report on the E-C Translation Practice of
***Volcanoes in Human History* (Chapter 3)**

Li Hexue

A thesis submitted in conformity with the requirements

For the degree of Master of
Translation and Interpreting
In English Translation

Supervised by Prof. Zhang Fengmei

School of Foreign Studies
Anhui Polytechnic University

Wuhu

May 2024

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Acknowledgements

My three years of graduate studies are three years of busyness and fulfillment, three years of deep self-reflection, and three years of exploring the meaning of life. During these three years, my growth, my gains, and my insights could not have been achieved without the support and companionship of the people around me. I would like to express my gratitude to them.

First of all, I would like to thank my mentor. I remember the first time I met Ms. Zhang Fengmei, she kindly said to us, “you are like my children.” I was deeply impressed at that time. In the following time, Ms. Zhang also treated me as if I were her own child. She patiently instructed me how to write an essay well; she generously provided opportunities for translation practice; she repeatedly taught me the principles of doing things. I have benefited a lot from her wise teachings.

Secondly, I would like to thank my roommate and classmates. I spent a very happy time with my roommate during the whole graduate studies. Thanks to her for encouraging me when I was depressed, helping me when I was in trouble, and comforting me when I was sad. I think I have gained a very lovely friend. I would also like to thank my classmates for caring and helping me. They brought me joy and left me wonderful memories.

Thirdly, I would like to thank my families. My parents and my younger brother have always been willing to listen to my little whining every day, show their understanding of my pressure and the difficulties I have faced and tolerate my bad temper and my little mistakes. For their support, encouragement, and belief in me, I still feel happy on my not-so-good days, and that love has given me the courage to keep going even in the face of setbacks.

Finally, I want to thank myself. I want to express thanks for my perseverance, for my willingness to believe in myself, and for staying optimistic every day.

With the end of my graduate studies, my campus life came to an end, and I will take this precious memory with me as I stride forward in my future journey.

摘 要

本次翻译实践选自导师承接的《人类历史上的火山》(*Volcanoes in Human History*)一书,该书是江苏人民出版社策划出版的《同一星球》系列中的一部,原书于2005年由普林斯顿大学出版社出版,作者是著名的地质学家耶勒·泽林加·代·波尔(Jelle Zeilinga de Boer)和唐纳德·西奥多·桑德斯(Donald Theodore Sanders),属国内首译。全书共十章,讲述了火山喷发对人类社会的深刻影响。本人负责该书第三章的初译与审校。这一章描述了青铜时代锡拉火山喷发的过程,及其对古希腊米诺斯文明的影响。源文本涉及大量专业术语和专有名词,但整体以叙述性描写为主。根据刘宓庆教授对文本类型的界定方式,属于叙述文体。

在翻译过程中,笔者主要遇到三大难题,分别为:如何翻译不常见地名,如何翻译长难句中的插入语,以及如何呈现语义连贯中的复现关系。对于不常见地名,笔者先是利用平行文本,确定译文;仍旧无法查询到的,则根据《外语地名汉字译写导则(英语)》进行音译。对于插入语翻译,笔者首先分析插入语结构,确切理解文意,然后通过恰当使用插入语符号、包孕法和重组法等技巧进行翻译,使译文符合汉语表达习惯,具有可读性。针对复现关系的呈现,笔者结合衔接词的词义或上下文语境来呈现源文中的语义连贯。

通过本次翻译实践,笔者的翻译能力在原文信息呈现、语篇连贯把握和汉语简洁性表达方面都得到进一步提升。笔者希望通过本次翻

译实践，为读者介绍更多关于火山的知识，帮助人们了解火山对人类社会的影响，唤起人们对自然与人类关系的思考。

关键词：《人类历史上的火山》；不常见地名；插入语；复现关系；语义连贯

Abstract

The translation practice is selected from the book *Volcanoes in Human History* undertaken by my supervisor. The book is part of the “One Planet” series planned and published by Jiangsu People’s Publishing House Co., Ltd. Written by Jelle Zeilinga de Boer and Donald Theodore Sanders, it was originally released by Princeton University Press in 2005 and has never been translated in China. Comprising of ten chapters, the book delves into the profound impact of volcanic eruptions on human society. The translator was responsible for the initial translation and proofreading of Chapter Three. This chapter describes the Bronze Age eruption of the volcano Thera and its impact on Minoan culture and ancient Greece. The source text involves a lot of technical terms and proper names, but the overall narrative description is dominated. According to the way Prof. Liu Miqing defines text types, it belongs to the descriptive text.

During the translation process, the translator mainly addressed three difficulties, namely: how to translate uncommon place names, how to translate the parentheses in long and difficult sentences, and how to present the reiteration in semantic coherence. For uncommon place names, the translator initially consulted parallel texts to determine the translation. For those still unavailable, transliteration was employed following the

Transformation Guidelines of Geographical Names from Foreign Languages into Chinese-English. For the parentheses, the translator began by analyzing their structure and precise meaning, and then properly employed parenthesis symbols, embedding and recasting to translate them, so as to make the translation conform to the habits of Chinese expression and be readable. For the presentation of reiteration, the translator inferred through the meaning of cohesive words and the context to present the semantic coherence in the source text.

This translation practice has significantly enhanced the translator's skills in faithfully presenting, mastering discourse coherence and expressing Chinese with simplicity. The translator hopes to introduce more knowledge about volcanoes to readers, help them understand the impact of volcanoes on human society, and evoke people's reflection on the relationship between nature and human beings.

Key Words: *Volcanoes in Human History*; uncommon place names;
parentheses; reiteration; semantic coherence

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Chapter 1 Introduction

In this chapter, the translator will briefly introduce the task from the source of the chosen text and the introduction of the original work and the source text, and will detail the significance of this translation practice.

1.1 Introduction of the Task

The source text is the third chapter of the book: *Volcanoes in Human History* written by Jelle Zeilinga de Boer and Donald Theodore Sanders and published by Princeton University Press in 2005. The translation task was commissioned by Jiangsu People's Publishing House to my supervisor. And it has never been published in Chinese version. Three of her students was involved in the translation. And I was responsible for Chapter Three, which contains 8612 words in the source text and 14720 words in the final translation. It is in line with the standard required for the graduation thesis of the Master of Translation and Interpreting.

This book tells the story of nine epic volcanic events, providing an insightful understanding of the related geology for readers and exploring the diverse impact of volcanism on human history. Zeilinga and Sanders delve into the profound implications of volcanic activity on civilizations, cultures, and the natural environment. After introducing the origins and mechanisms of volcanism, the authors draw on ancient as well as modern accounts -- from folklore to poetry and from philosophy to literature.

Chapter Three states the eruption of Thera during the Bronze Age and its influence on Minoan and Greek culture and its effect on Greek mythology, Bible and other literature. It is believed that the eruption of Thera during the Bronze Age is one of the most devastating disaster in human history. The authors tell how volcanic products, earthquakes and tsunamis caused by this eruption impacted greatly on Thera, Crete, the eastern Mediterranean and even China. The authors then go on to tell how

this eruption led to the demise of the Minoan civilization.

1.2 Significance of the Practice

The significance of the report lies mainly in the following three points:

First of all, the report can expand the knowledge of the translator. The authors used specialized geological terminologies and a great deal of geological knowledge when describing the reasons for the frequent occurrence of volcanoes in Thera. The translator must carefully study the background knowledge about geology and check the accuracy of the translations during the translation process.

Second, the report can help the translator gain insight into the stories in Western literature. The authors elaborate on how the eruption of Thera inspired the creation of several literary works such as the Greek myths, the Bible, Homer's epic poems, and Plato's dialogues. The translator truly knows that natural disasters have a profound effect on humanity beyond the obvious destruction.

Third, the report can enhance the translator's translation skills. This practice is long and difficult. Confucius said, "Study without thinking is labor lost. Thinking without study is perilous." In the process of translation, the translator found problems, solved problems and reflected on problems, combining study and thinking, which greatly improves the translation skills.

Chapter 2 Preparations for Translation

In this chapter, the translator will detail the work of translation preparation mainly from four aspects: text type analysis, collection parallel texts, usage of translation tools and formulation of glossary.

2.1 Analysis of Text Type

The source text describes the eruption of Thera during the Bronze Age and its influence on Minoan and Greek culture and effect on Greek mythology, Bible and other literature. Therefore, geology, history, literature and religion are involved in the source text. And authors use rich words to describe this eruption to readers. For vocabulary in the source text, there are many volcanic terminologies and some geological terminologies, which shows professionalism. When describing myths related to Thera's eruption, words used by authors present literariness. The source text also has multiple language phenomenon. Different kinds of complex sentences appear frequently in the source text. The structures of sentences are complicated and close-connected. Adverbs, phrases and clauses are inserted into long sentences according to a certain logic, which brings many difficulties to translation. For the source text's writing style, the language is concise and formal.

Liu Miqing said, "narrative and descriptive text is one of the most widely used and frequently used genres in everyday life." (刘宓庆, 2012: 141) According to his opinions, narrative and descriptive text is generally characterized by the following features:

1. Rich words;
2. Multiple language phenomenon;
3. Different emotional colors;
4. Diverse writing style. (刘宓庆, 2012: 143-144)

Through detailed analysis and Liu Miqing's opinions, the source text belongs to

the narrative and descriptive text. Liu also said that while translating this kind of text, the basic principle is conforming to the source text. (刘宓庆, 2012: 146) So the translator decided to comply with this principle while translating the source text.

2.2 Collection of Parallel Texts

The term of “parallel text” generally refers to the types of discourse with similar communicative functions in different language cultures, usually used in comparative discourse linguistics. (李德超, 2009: 55) Parallel texts are texts on comparable topics which, despite being produced in differing environments, belong to the same genre and fulfill the same function. (House, 2007: 19)

The source text describes the reasons for the formation of the volcano on Santorini (Thera), which undoubtedly contains geological terminologies and geological expertise. The translator did not know about this kind of knowledge, so she searched three authoritative dictionaries according to ChatGPT’s instructions, *Dictionary of Earth Sciences*, *Dictionary of Geology* and *Encyclopedic Dictionary of China* to translate geological terms of the source text. These three books provide a scientific and standardized introduction of each term, which effectively help the translator to understand the professional knowledge of geology. Besides, the translator found articles published by the Institute of Geology and Geophysics of the Chinese Academy of Sciences. Then the translator searched for the geographical distribution of Santorini (Thera), Crete, Ancient Greece and other islands in the eastern Mediterranean region, which well helps the translator to understand the unfamiliar source text and ensures the accuracy of the translation. The authors tell about literature related to the eruption of the volcano in Thera, and the translator reads Chinese texts on the same topics as the source text, such as Theseus, the heroes of the Argonauts, the Exodus, Atlantis, and so on.

2.3 Selection of Translation Tools

A good translation tool is indispensable for completing a complete translation. The translation tools used by the translator are basically electronic tools: CAT tools such as Snowman Translation Software, Snowman Alignment Assistant, FanE Changer, artificial intelligence websites such as ChatGPT, Wenxin Yiyin, and websites such as Baidu and Google.

After carefully reading the source text and analyzing the text type, the translator then tried to find the required electronic dictionaries on the Internet. In addition to the electronic versions of *Dictionary of Earth Sciences* and *Dictionary of Geology* mentioned in the previous section, the translator also searched for the electronic versions of *Dictionary of Translations of World Personal Names* and *Dictionary of Translations of World Geographical Names*.

spatter cone—a low, steep-sided cone formed by the hardening of molten fragmental materials around a volcanic vent.	spreading(参见海底扩张)。
spreading (see sea-floor spreading).	strain(变形)——固体材料受应力而变形。
strain—deformation of a solid material as a result of stress. stress—force exerted per unit area of a solid material.	subaerial(次空气)——发生在陆地表面或其附近的事件或过程(参见 submarine)。
a land surface (cf. submarine).	subduction(俯冲)——一个板块下沉到另一个板块以下(参见板块构造论)。
subduction—the descent of one tectonic plate beneath another (see plate tectonics).	submarine(海底)——在水体下发生的事件或过程(参见 subaerial)。
submarine (adjective)—pertaining to events or processes that occur beneath the surface of a body of water (cf. subaerial).	sulfur dioxide(二氧化硫)——一种气态化合物,包含一份硫和两份氧。
sulfur dioxide—a gaseous chemical compound comprising one part sulfur to two parts oxygen.	surge(火山碎屑云)——细小火山碎屑和炽热气体的剧烈湍流云。
surge (volcanic)—a turbulent cloud of fine volcanic debris and fiery gases.	tectonic(构造)——与地球外层的结构和形变特征有关(参见板块构造论)。
tectonic (tek-tahn-ic)—pertaining to structural and deformational features within the outer part of the earth (see plate tectonics).	tectonic plate(构造板块)(参见板块构造论)。
tectonic plate (see plate tectonics).	thrust fault(逆断层)——地壳一部分被推过或推下另一部分而产生的断层。
thrust fault—a fault (q.v.) caused by the thrusting of one part of the earth's crust over or under another.	tiltmeter(倾斜计)——测量地表倾斜或倾斜变化的仪器。
tiltmeter—an instrument for measuring slight changes in the slope, or tilt, of the earth's surface.	topography(地形)——陆地表面三维配置。
topography—the three-dimensional configuration of a land surface.	trench(海沟)(参见 oceanic trench)。
trench (see oceanic trench).	tsunami(海啸)——例如地震或火山碎屑流入海时,海底突然扰动产生的海浪。
tsunami (tsu-nom-ee)—a sea wave produced by a sudden disturbance of the ocean floor, as by an earthquake, or by	VEI(参见火山爆炸指数)。
VEI (see volcanic explosivity index).	

Then the translator converted *Dictionary of Translations of World Personal Names* and *Dictionary of Translations of World Geographical Names* into the correct format and imported them into the Snowman Translation Software to make term bases. The translator also used the same method to create translation memories from the collected bilingual texts.

英译中 - chapter 3

文件(F) 编辑(E) 项目管理(P) 词语管理 工具(T) 视图(V) 帮助(H)

项目文件 火山55-60.xlsx 项目词典 项目记忆库

序号	原文	词性	译文
1	Active volcanoes		活火山
2	Afghanistan		阿富汗
3	Africa		非洲(阿非利加洲)
4	Ailaau		艾芬
5	Aleutian		阿留申海沟
6	Aleutian Islands		阿留申群岛
7	Antarctica		南极洲
8	Apollo		阿波罗(希腊神话中的太阳神)
9	Arni Gunnarsson		Arni·冈纳森
10	Arthur Evans		阿瑟·埃文斯
11	Auckland		奥克兰
12	Australia		澳大利亚
13	Baffin Island		巴芬岛
14	Bali		巴厘岛
15	Bangladesh		孟加拉国
16	Baron Kasender		巴伦·Kasender
17	Batavia		巴达维亚
18	Benjamin Franklin		本杰明·富兰克林
19	Big Island of Hawaii		夏威夷大岛
20	Bima		比马
21	Bogotá		波哥大
22	Borneo		婆罗洲
23	Bothwell Castle		博斯威尔城堡
24	Brazil		巴西城
25	British Isles		不列颠群岛
26	Buenos Aires		布宜诺斯艾利斯港
27	California		加利福尼亚
28	Canada		加拿大
29	Cape Kusukahi		库穆卡希角
30	Cape Town		开普敦
31	Cape of Good Hope		好望角
32	Caribbean		加勒比
33	Caspar Feucer		卡斯帕·Feucer
34	Caspian Sea		里海
35	Cerro Ojesdel Salado		奥霍斯-德尔萨拉多山
36	Ceylon		锡兰

The translator encountered great difficulties in converting term bases and bilingual texts into a format that could be imported into the Snowman translation software. Then the translator planned to import the terminology database and the memory database into the Snowman Translation Software, and then imported the source text and translated it.

In today's society, artificial intelligence technology has made remarkable development. In terms of information retrieval, ChatGPT can understand the intention of the user's question, perform the search and give an accurate answer. (杜振雷, 2023: 45-46) Through ChatGPT, the translator not only asked the AI about the geography and human environment of Santorini (Thera), the synopsis of literary works such as the Bible, Greek mythology, Homeric epics and Plato described in the source text, but also requested the AI to recommend specialized books needed to supplement the relevant background knowledge.

2.4 Formulation of Glossary

The glossary in the source text mainly includes two aspects: volcanology and

seismology, which is rigorous. To make sure the accuracy and normalization and the consistency, the glossary involved in the source text were extracted, translated, verified and proofread.

In the report, Termoline and CNKI translation assistant are mainly used to formulate the glossary. Terminologies were extracted from Termoline and then verified by CNKI translation assistant. Finally, the translator collected them to build the formal glossary. Here is an example of the glossary.

Leukos	莱科斯
Likades islands	利卡塞斯群岛
lithosphere	岩石圈
Louis Figuier	路易斯·菲吉耶
magma	岩浆
mantle	地幔
Medea	美狄亚
Megalo Vouno	梅加洛沃诺断层
Mesopotamia	美索不达米亚
Methana	迈萨纳岛
Michael Ventris	迈克尔·文特里斯
Micro Kameni	小卡梅尼岛

Chapter 3 Case Study

This chapter will analyze the difficult problems encountered in this practice, which are reflected in three aspects: specialized vocabulary, interjections, and recurrence relations in semantic coherence. The translator will give different solutions based on the above problems.

3.1 The Processing of Uncommon Foreign Place Names

The translation of place names is the process of replacing the textual representation of geographical names in one language (source language) with that in another language (target language), which is the process of language symbol conversion. In this process, the symbols in the source language are transformed into symbols in the corresponding target language to ensure maximum understanding for those using the target language. In an information-based society, the translation of place names is not only an academic issue, it also plays a crucial role in international politics, economics, diplomacy, foreign trade, technology, cultural exchange, news publishing, and social life. (于新松, 2020: 14)

The source text contains a large number of place names, almost exclusively island names in the eastern Mediterranean region. A small portion of these place names is common and well-known, such as Greek, Santorini, Thera, and others. For such place names, the translator utilized a prepared terminology database for translation, ensuring both the accuracy of place name translation and the consistency of terminology. However, the majority of place names, except for professionals, is likely unfamiliar to most people and may not even be included in the *Place Name of World*. To address these challenges, the translator searched parallel texts and used transliteration.

3.1.1 Searching Parallel Texts

The translator cannot find some place names' translation through the terminology database established, so she resorted to parallel texts. In the preparation stage, the translator read material related to Santorini Island, gaining insights and experiences from previous works through parallel texts. This approach also helps in discovering some place name vocabulary. For instance, in an article published by the Institute of Geology and Geophysics of the Chinese Academy of Sciences, the translator found Chinese translations for some place names mentioned in the source text. Here are some of examples of place names searched from parallel texts.

English	Chinese
Aspronisi	阿斯普罗尼西岛
Nea Kameni	新卡梅尼岛
Palaea Kameni	帕拉亚卡梅尼岛
Methana	迈萨纳岛
Akrotiri	阿克罗蒂里镇

But there are still some place names that do not correspond to the Chinese found in the parallel texts.

Example 1

ST: Instead, when ships call at the island's main town, **Phira**, they tie up to ...

TT: 相反，船只要想停靠岛上的主要城镇**费拉**，船员会系上……

Analysis: In the parallel texts, about the introduction of Santorini, its capital is a beautiful town called Fira. In the source text, authors did not state Phira is Santorini's capital and used the word of “main” to describe this small town. However, the town of Phira' location and description wrote by authors are same as ones in the parallel texts. The translator checked through Wikipedia and then ensured that Phira is another word for Fira. Thus, she translated Phira into “**费拉**”.

Example 2

ST: ..., and **Nyseros**, an island near the coast of Turkey.

TT: ……，以及土耳其海岸附近的**尼西罗斯岛**。

Analysis: The translator met the similar problem when she had translated “Nyseros”. In the parallel texts about the Hellenic volcanic arc, this arc includes Santorini, Nisyros, Milos, Crete and so on, which is the same as the description in the source text. Thus, the translator assumed that Niseros is another word for Nyseros. And after verification, her assumption is right. So the translation of “Nyseros” is “尼西罗斯”.

3.1.2 Transliteration

In the *A Dictionary of Translation Studies in China*, it explains that “Transliteration, also referred to as ‘transcription’, is the process or outcome of using a set of characters (such as the Latin alphabet) to represent characters from another writing system (such as Chinese characters). In situations where there is a substantial disparity between the source language and the target language, leading to semantic gaps, direct translation becomes challenging. In such cases, transliteration serves as the primary method of translation. The primary subjects of transliteration include personal names, place names, and newly coined terms.” (方梦之, 2007: 96)

Huang Dexin concluded four principles of transliteration. First, unification and normation; second, followed by original country or nation and sanctioned by usage; third, survival of the fittest; fourth, ensure meaning and homophony. (刘祥清, 2008: 39) In the report, the translator focused on the second principle. In more detail, it requires translators to translate a person name or a place name in line with the pronunciation of its original country or nation. And if one translation was accepted generally but not followed by the previous requirement, the translation should not be changed in case of confusion of readers. (林宝焯, 1998: 77) For instance, the Chinese translation of Greece is “希腊”. However, it is transliterated from its Greek pronunciation -- Hellas rather than its English pronunciation.

In the source text, there are lots of place names came from Greek language that are located in the Aegean region. According to Huang’s second principle of transliteration, the translator translated these place names that cannot be searched in

dictionaries or collected parallel texts through their Greek pronunciation. And then the translator faced the following problem -- she did not learn Greek and had no idea about these place names' Greek pronunciation. Thus, she resorted to AI -- ChatGPT. With the help of ChatGPT, the translator got their Greek pronunciation and chose Chinese characters similar to Greek pronunciation to transliterate them. What's more, in this report, the translator transliterated place names according to *Transformation Guidelines of Geographical Names from Foreign Languages into Chinese -- English*.

表 1 英汉音译表

韦氏音标			b	p	d	t	g	k	v	w	f	z	ts	s	th	zh	sh	j	ch	h	m	n	l	r	y	gw	kw	hw
国际音标			b	p	d	t	g	k	v	w	f	z	ts	s	θ ð	ʒ	ʃ	ʈ	ʧ	h	m	n	l	r	j	gw	kw	hw
韦氏音标	国际音标	汉字	布	普	德	特	格	克	夫 (弗)	夫 (弗)	夫 (弗)	兹	茨	斯 (丝)	日	什	季	奇	赫	姆	恩	尔	尔	伊				
ä u ä	ɑ: ʌ æ	阿	巴	帕	达	塔	加	卡	瓦	瓦	法	扎	察	萨		沙 (莎)	贾	查	哈	马 (玛)	纳 (娜)	拉	拉	亚 (娅)	瓜	夸	华	
ē /ä	e /ei	埃	贝	佩	德/代 (黛)	特/泰	盖	凯	韦	韦	费	泽	采	塞		谢	杰	切	赫/黑	梅	内	莱	雷	耶	圭	奎	惠	
û r û ər ä u	ə: ə	厄	伯	珀	德	特	格	克	弗	沃	弗	泽	策	瑟	热	舍	哲	彻	赫	默	纳 (娜)	勒	勒	耶	果	阔	霍	
e ē i ŷ	i: i(j)	伊	比	皮	迪	蒂	吉	基	维	威	非	齐	齐	西 (锡)		希	吉	奇	希	米	尼 (妮)	利 (莉)	里 (丽)	伊	圭	奎	惠	
ô ô r ô/ô ô	o ɔ: /ou o ou	奥/ 欧	博	波	多	托	戈	科	沃	沃	福	佐	措	索	若	肖	乔	乔	霍	莫	诺	洛	罗	约	果	匹	霍	
õ õ	u: u	乌	布	普	杜	图	古	库	武	伍	富	祖	楚	苏	茹	舒	朱	楚	胡	穆	努	卢	鲁	尤		库		
ü Ü	ju: ju	尤	比尤	皮尤	迪尤	蒂尤	久	丘	维尤	威尤	菲尤	久	丘	休		休	久	丘	休	缪	纽	柳	留					
i	ai	艾	拜	派	代 (黛)	泰	盖	凯	韦	怀	法	宰	蔡	赛		夏	贾	柴	海 (亥)	迈	奈	莱	赖	耶	瓜伊	夸	怀	
ou	au	奥	包	保	道	陶	高	考	沃	沃	福	藻	曹	绍		绍	焦	乔	豪	毛	瑞	劳	劳	尧		阔		
ân âng ün	æn ʌn an æŋ	安	班	潘	丹	坦	甘	坎	万	万	凡	赞	灿	桑		尚	詹	钱	汉	曼	南 (楠)	兰	兰	扬	关	宽	环	
ân ou n ûng ôn ön öng	ɑ:n aun ʌŋ ɔ:n ɔ n ɔŋ	昂	邦	庞	当	唐	冈	康	旺	旺	方	藏	仓	桑		尚	章	昌	杭	芒	南 (楠)	朗	朗	扬	光	匡	黄	

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表 1 (续)

韦氏音标		b	p	d	t	g	k	v	w	f	z	ts	s	zh	sh	j	ch	h	m	n	l	r	y	gw	kw	hw
国际音标		b	p	d	t	g	k	v	w	f	z	ts	s	ʒ	ʃ	ʝ	ç	h	m	n	l	r	j	gw	kw	hw
韦氏音标	国际音标	汉字	布	普	德	特	格	克	夫 (弗)	夫 (弗)	夫 (弗)	兹	茨 (丝)	日	什	季	奇	赫	姆	恩	尔	尔	伊			
ən ɛŋ ũn ūn ũŋ	en eŋ a:m an ay	恩	本	彭	登	滕	根	肯	文	文	芬	曾	岑	森	任	申	真 (珍)	琴	亨	门	嫩	伦	伦	因	古恩	昆
ən in yūn ēm	in in ian jan	因	宾	平	丁	廷	金	金	温	温	芬	津	钦	辛		欣	金	钦	欣	明	宁	林 (琳)	林 (琳)	古因	昆	
ɪŋ	ɪŋ	英	宾	平	丁	廷	京	金	温	温	芬	京	青	辛		兴	京	青	兴	明	宁	灵	灵	英	古英	
ōn ɔŋ ōn	u:n un ou:n ōn	温	本	蓬	敦	通	贡	昆	文	文	丰	尊	聪	孙		顺	准	春	洪	蒙	嫩	伦	伦	云		
ōng	uŋ	翁	邦	蓬	东 (栋)	通	贡	孔	翁	翁	丰	宗	聪	松		雄	琼	琼	洪	蒙	农	隆	龙	永	洪	

注 1: 汉字读音以普通话读音为准。

注 2: 汉字书写以国家语言文字工作委员会公布的简化汉字为准。

注 3: 辅音竖行与元音横行交叉点上的汉字即为该辅音与元音拼读的音译汉字。元音自成音节时, 用表 1 中的元音零行汉字译写; 而[n][ŋ]以外的辅音单独发音时, 用表 1 中的辅音零行汉字译写。

注 4: 汉字译名若产生望文生义现象时, 应用该音节的同音异字译写。“东”、“南”、“西”出现在地名开头时, 用“栋”、“楠”、“儒”译写; “海”出现在地名结尾时, 用“亥”译写。

注 5: “姪”、“玛”、“娜”、“莉”、“丽”、“琳”、“妮”、“珍”、“丝”、“莎”、“黛”等汉字用于以女性人名命名的地名。

注 6: “弗”用于译名的词首; “夫”用于译名的词中和词尾。

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Thus, the translator should firstly divide phonetic symbols by syllables, and then combine the consonant and vowel phonemes and find the corresponding Chinese character in these two tables.

Example 3

ST: Kolumbo last erupted in 1650 C.E.

TT: 科伦博火山最近一次喷发是在 1650 年。

Analysis: The translator asked ChatGPT about Kolumbo's origin and its original pronunciation. It is from Κολούμπο in Greek, an active volcano in Greece, and its International phonetic symbol is /kolumbo/.

 请告诉我Kolumbo/准确的希腊发音

 抱歉再次的混淆。在希腊语中，“Kolumbo”的准确发音为 [ko'lonbo]。以下是每个音素的解释：

1. **K**: [k], 希腊语中的“κ”, 与英语中的“k”相似。
2. **o**: [o], 表示短音的“o”。
3. **l**: [l], 希腊语中的“λ”, 与英语中的“l”相似。
4. **u**: [u], 表示“u”的发音, 与英语中“u”相似。
5. **m**: [m], 希腊语中的“μ”, 与英语中的“m”相似。
6. **b**: [b], 表示“β”的发音, 与英语中的“b”相似。
7. **o**: [o], 再次表示短音的“o”。

因此, “Kolumbo”的准确希腊发音为 [ko'lonbo]。如果有其他问题或需要更多帮助, 请随时告

The translator firstly divided it into three syllables: /ko/, /lum/ and /bo/. Based on the Guidelines, three syllables respectively are “科”, “伦” and “博”. Finally, the translation of Kolumbo is “科伦博”.

Example 4

ST: ..., which includes **Likades islands** in the northern Gulf of Euboea in Central Greece, ...

TT: ……，包括希腊中部埃维亚湾以北的利卡塞斯群岛，……。

Analysis: From ChatGPT, Likades is originated from Λικάδε and its Greek pronunciation is /likaðes/. And it was divided into four syllables, /li/, /ka/, /ðe/ and /s/. “利”, “卡”, “塞” and “斯” were translated in line with the Guidelines. Thus, Likades’s translation is “利卡塞斯”, and Likades islands was translated into “利卡塞斯群岛”.

Example 5

ST: The Santorini archipelago and the nearby **island of Anáfi** are the southernmost of the Cyclades islands, ...

TT: 桑托林群岛和附近的**阿纳菲岛**位于基克拉泽斯群岛的最南端……

Analysis: The island of Anáfi is located in the east of the island of Santorini. The word of Anáfi comes from Ανάφη and the Greek pronunciation is /a'nafi/. Used the same method as above, this International phonetic symbol was separated into /a/, /'na/ and /fi/. They were respectively translated into “阿”, “纳” and “菲”. This small island’s Chinese translation is “阿纳菲岛”.

3.2 The Processing of Parentheses in Long Sentences

Parentheses are widely used in spoken and written language, which interest scholars at home and abroad. In Nicole Dehé & Yordanka Kavalova's opinion, parentheses are expressions that are linearly represented in a given string of utterance (a host sentence), but seem structurally independent at the same time. And parentheses typically function as modifiers, additions to or comments on the current talk. They often convey the attitude of the speaker towards the content of the utterance, and/ or the degree of speaker endorsement. (Dehé, 2007: 1) Gu Shoulin divides parentheses into eight types: a) adverbials; b) infinitive phrases; c) present participle phrases; d) prepositional phrases; e) adjectives and phrases relating to adjectives; f) other phrases; g) clauses; h) short verses. (顾寿麟, 1996: 28-30)

According to scholars' researches on the definition and classifications of parentheses, the translator concluded the key and difficult points of parentheses in the source text. And the difficult parentheses in the process of translation are as follows: prepositional phrases, clauses and other phrases. The translator adopted the following translation techniques to solve them.

3.2.1 Using Parenthesis Marks

Example 6

ST: The precise age of the Bronze Age eruption of Thera is in dispute in part because of uncertainties in the dating of ancient materials by the use of radiometry -- that is, **the measuring of radiant energy**, in this case from a radioactive isotope of carbon known as carbon-14.

TT1: 锡拉岛火山在青铜时代喷发的确切时间仍有争议，部分原因是辐射度学的应用并不能准确对古代物质进行测定，也就是**对碳-14 的辐射能的测量**并不准确。

TT2: 锡拉岛火山在青铜时代喷发的确切时间仍有争议，部分原因是辐射测量法（即**测量辐射能**）对古代物质的年代测定存在不确定性，这里主要是使用碳

-14。

Analysis: “That is”, “the measuring of radiant energy” and “in this case from a radioactive isotope of carbon known as carbon-14” are all parentheses in this sentence. “The measuring of radiant energy” is an explanation of “the use of radiometry” and “in this case from a radioactive isotope of carbon known as carbon-14” further illustrates the specific method of measuring of radiant energy. In TT1, the translator misunderstood that the parentheses further explain the dispute of “the precise age of the Bronze Age eruption of Thera” rather than “the use of radiometry”. After full consideration, in TT2, the translator used parenthesis marks – brackets to translate “that is” and put the translation of “the measuring of radiant energy” into the brackets. In this way, the translation is concise and accurate and ensures the communication between the book and readers.

Example 7

ST: In the early Late Minoan period, however, presumably at the time of the severe pre-eruption earthquakes, the destruction was so complete that no palaces were rebuilt -- **except Knossos, which seems to have suffered less damage.**

TT1: 然而，在米诺斯文明晚期的早些年间，大概是在锡拉岛火山喷发前发生大地震的时候，这次地震对克里特岛的破坏非常大，似乎因为克诺索斯受到的破坏较小，所以只有克诺索斯经历了重建。

TT2: 然而，在米诺斯文明晚期的早些年间，大约是在锡拉火山喷发前，也就是发生大地震时，这次地震的破坏非常之大，几乎没有宫殿能够重建，克诺索斯是个例外——它看上去遭受的破坏较小。

Analysis: In this sentence, the main clause is “the destruction was so complete that no palaces were rebuilt”. The parenthesis “presumably at the time of the severe pre-eruption earthquakes” is a supplement to the temporal adverbial of “in the early Late Minoan period”. The parenthesis, “however”, shows that this sentence contrasts with the above. The remaining parentheses – “except Knossos” and “which seems to have suffered less damage” – supplement the main clause. Here the translator focused on analyzing the last two parentheses. In TT1, the translator abandoned the source

text's parenthesis mark: the dash, and chose to translate them into causality, which authors had not intended to convey. The translator put her misunderstanding into the original translation. In TT2, the translator used the dash, not in the same place as the source text, but in the middle of "except Knossos" and "which seems to have suffered less damage". In this way, the translation is faithful and smooth.

3.2.2 Embedding

Embedding is a kind of translation method that while translating English into Chinese, parentheses in the source text are placed before the head word and then become restrictive prenominal modifiers in the translation. (许明武, 2005: 121)

Example 8

ST: Thus archaeologists have correlated late Minoan pottery with the reign of Thutmose III, **the fifth pharaoh of the Eighteenth Dynasty**, who is believed to have occupied his throne sometime between 1504 and 1450 B. C. E.

TT1: 考古学家将晚期米诺斯陶器与图特摩斯三世联系起来，他是第十八王朝第五位法老，担任法老的时间是在公元前 1504 至 1450 年之间。

TT2: 由此，他们认定，晚期米诺斯陶器与第十八王朝第五位法老图特摩斯三世（Thutmose III）统治的时间相对应，而他担任法老的时间是在公元前 1504 至 1450 年之间。

Analysis: The parenthesis of "the fifth pharaoh of the Eighteenth Dynasty" is the noun phrase, which is classified into other phrases by Gu Shoulin. In TT1, the translator used the linear translation, which is fluent. However, Chinese is different from English. English focuses on the end of a sentence and put modifiers behind the head word, which is called the peacock-type language; while Chinese is totally different. Chinese focuses on the context and the original meaning and has long modifiers and a short head word, which is called the lion-type language. (张子睿, 2008: 10) The first version of translation does not conform with the Chinese expression habits. In Chinese, if the modifiers are not tedious, it is better to use the method of embedding. Embedding can ensure the translation is concise in the

sentence meaning and has the wholeness at the structural level. (刘宓庆, 2012: 121)

So for conforming the Chinese expression habits, the translator used the method of embedding to translate the parenthesis of “the fifth pharaoh of the Eighteenth Dynasty”. In TT2, the translation conveys the source text’s meaning and conforms with the Chinese’s expression.

Example 9

ST: He heard the story from Critias, who had heard it from his grandfather, whose father, named Dropides, had heard it from Solon (630? - 560? B. C. E.), **the great sage and lawgiver of Athens.**

TT1: 克里底亚从他的祖父德洛皮德斯（Dropises）听来亚特兰蒂斯的故事，而他的祖父又是从梭伦（Solon，公元前 630? -650? ）那里听来的，梭伦是古代雅典的立法者，圣人。

TT2: 柏拉图是从克里底亚（Critias）那里听到这个故事，克里底亚又从祖父那里获知，而他祖父的父亲——德罗庇得斯（Dropides）又是从**雅典先贤和立法者梭伦**（公元前 630? -560? ）那里得知。

Analysis: In this example, the classification of parenthesis is the same as the previous example. And for a parenthesis used to further describe its modified head word, the translator still made the same mistake. She used the translation method of linear translation and then the translation is long and verbose. The TT1 shows this problem. It lacks compact structure and the coherence of thought logic. Embedding is the optimal choice to solve such problems. So in TT2, the translator used the method of embedding to translate the parenthesis of “the great sage and lawgiver of Athens” into “**雅典先贤和立法者**” and put it before Solon as a premodifier. Comparing with TT1, TT2 avoided the repetition of “梭伦”, which increases the translation’s influence, logic and coherence.

3.2.3 Recasting

Recasting is a kind of translation method that fully comprehend the source text’ structure, then reorganize segments separated from a long sentence into Chinese

conforming the Chinese's expression habits. (许明武, 2005: 123)

The advantage of recasting is the translation is fluent and natural because there is no limit of the source text's word order and sentential form. In this report, the source text's expressions and sequence are totally different from the target text. Thus, the translator chose the method of recasting to solve such problems.

Example 10

ST: Until recently, to reach Phira, **with its whitewashed buildings perched atop the caldera wall more than a thousand feet above the sea**, one had to climb, **by foot or on mule-back**, more than 500 steps in a ramp that zigzags up the cliff.

TT1: 前不久, 人们必须步行或骑骡子到达坐落在离海面一千多英尺高的破火山口墙上并且粉刷过的菲拉镇, 在一个蜿蜒曲折的悬崖斜坡向上爬 500 多级。

TT2: 满是白色建筑的菲拉镇坐落在海拔一千多英尺的火山口壁上。直到最近, 人们到达那里必须步行或骑骡子, 在蜿蜒曲折的悬崖斜坡上爬 500 多级。

Analysis: The parenthesis of “with its whitewashed buildings perched atop the caldera wall more than a thousand feet above the sea” further describes the town of Phira to present its general appearance and location for readers. And the other parenthesis of “by foot or on mule-back” completes the methods of climbing Phira. To translate such complicated sentence, in TT1, the translator used embedding and linear translation to translate them respectively, but Chinese firstly introduces the information of background one by one, such as time, place and manner, and then points out the focus of a sentence. In Chinese, human thinking matches the word order of sentences. (杨丰宁, 2006: 66) In TT1, it shows at first that people must go to Phira by foot or on mule-back, which is the focus of the sentence. So to conform with the Chinese characteristics, in TT2, the translator restructured the source text and divided them into two sentences in Chinese. Firstly, she chose to translate the general appearance and location of Phira to make clear the background and then translated the focus of the source text.

Example 11

ST: There is a land called Crete, **in the midst of the wine-dark sea, a fair, rich**

land, begirt with water, and therein are many men past counting, and ninety cities.

TT1: 克里特岛位于葡萄酒紫色的大海中央，它的风景美丽，土地肥沃，海水环绕着它，孕育了众多人口，有 90 个城市。

TT2: 在酒色深沉的大海中，有片名为克里特岛的土地，它四面环海，美丽富饶，哺育了众多人口，坐拥 90 座城市。

Analysis: In the ST, the parentheses of “in the midst of the wine-dark sea” and “a fair, rich land” both further describe Crete. The TT1 adopted the linear translation, which is correct at the grammatical level. Even though it has lots of short verses to connect the whole translation, however, Chinese put the background firstly and then the focus. With this principle, the translator divided the segments of the source text and arrange them on the basis of Chinese language habit. The adverbial of place “在酒色深沉的大海中” put the beginning of the target text in TT2, the focus, or the topic -- “克里特岛” is introduced, and then the basic information about Crete is showed. Besides, the translator used four-character words such as “酒色深沉”, “四面环海”, “美丽富饶”, which is the unique lexical phenomena, to make the target text fluent, concise and rhythmical. (唐根金, 2020: 71)

3.3 The Processing of Reiteration in Semantic Coherence

Halliday and Hasan pointed that reiteration is a form of lexical cohesion which involves the repetition of a lexical item, at one end of the scale; the use of a general word to refer back to a lexical item, at the other end of the scale; and a number of things in between -- the use of a synonym, near-synonym, or superordinate. (Halliday & Hasan, 1976: 278). Based on their views, Wang Dongfeng summarized reiteration into two main types: the cohesion of repetition and the cohesion of synonymy. (王东风, 2009: 173) In the source text, reiteration has troubled the translator. While translating the source text firstly, she did not recognize the reiteration at all, so there were errors in conveying the meaning of the source text. In this report, the translator mainly adopted translation techniques of inferring through the meaning of cohesive words and the context to solve problems met in the translation of reiteration.

3.3.1 Inferring through the Meaning of Cohesive words

In Wang Dongfeng's opinion, the best way to translate the cohesion of synonymy and the cohesion of repetition in reiteration is corresponding in forms. It means that finding a synonymy in the source text if the source text has it to remain the cohesion and rhetorical value of the source text. (王东风, 2009: 179) To reflect the same cohesion in the target text, it is very necessary to combine the meaning of the cohesive words.

Example 12

ST: (a) There are no written records to tell us what happened, but the **diaspora** put an end to Minoan domination of the eastern Mediterranean world.

(b) The name Leukos probably refers to the white volcanic ash that covered eastern Crete and led to the **diaspora** of the Minoans.

(c) Thus the Bronze Age eruption of Thera and the resulting Minoan **diaspora** appear to have been major factors in the rise of Mycenaean Greece, the cultural ancestor of classical Greece.

TT1: (a) 没有文字记载告诉我们发生了什么, 但是克里特**人口四散**结束了米诺斯人对地中海东部地区的统治。

(b) 莱克斯这个名字可能是指覆盖克里特岛东部并导致米诺斯人**四处为家**的白色火山灰。

(c) 青铜时代锡拉岛火山喷发和由此导致的米诺斯人**移居**似乎是古希腊文化的起源——迈锡尼文明崛起的主要因素。

TT2: (a) 没有文字记录告诉我们发生了什么, 但**人口迁徙**结束了米诺斯人对东地中海世界的统治。

(b) “莱科斯”这个名字可能暗示了覆盖在克里特岛东部的白色火山灰, 导致米诺斯**人口迁徙**。

(c) 青铜时代锡拉火山的喷发和由此导致的米诺斯**人口迁徙**似乎是古希腊文化的鼻祖——迈锡尼文明崛起的主要原因。

Analysis: In ST, these three sentences appear respectively in the paragraphs 38, 64 and 80, which is called a remote tie according to Halliday and Hasan's opinion.

((Halliday & Hasan, 1976:331) A remote tie makes it possible to be coherent across very long length. If this intrinsic coherence is not reconstructed as it should be in the translation process, it can result in a serious semantic deficit. (王东风, 2009: 172) The authors intend to use the same word to form the semantic coherence, which is called the cohesion of repetition in reiteration. The cohesion of repetition in English refers to one word or phrase's repetition, and it is the most direct way in the lexical cohesion to form coherence between sentences. (胡壮麟, 1998: 115) At first, the translator could not find this kind of cohesion and respectively translated the same word -- "diaspora"-- into "人口四散", "四处为家", and "移居". They seem not improper in the target text if readers only look at one of them. But in this way, readers cannot feel the source text's semantic coherence. To make Chinese readers feel this coherence and have the same feeling as the English readers, the translator modified the word in different paragraphs -- "diaspora"-- into "人口迁徙" in Chinese and the cohesion of repetition in reiteration has been showed.

Example 13

ST: (a) Pottery found in the **ruins** shows that the Bronze Age culture was Minoan, from Crete.

(b) We know the island was settled by Bronze Age people because **remnants** of stone walls and houses have been found beneath the ash and pumice on Thera and Therasia.

TT1: (a) **废墟**中发现的陶器表明, 青铜时代文明来自克里特岛的米诺斯文明。

(b) ……., 青铜时代有人类来此定居, 因为在锡拉岛和锡拉西亚岛的火山灰和浮岩下发现了石墙和房屋的**遗迹**。

TT2: (a) 而**遗迹**中出土的陶器则表明, 这些青铜文明是来自克里特岛上的米诺斯文明。

(b) ……., 青铜时代锡拉岛上的居住点由此发展而来。在锡拉岛和锡拉西亚岛的火山灰和浮岩下发现了石墙和房屋的**遗迹**。

Analysis: In ST, the sentence (b) is put before the sentence (a). From the

meaning of “remnants”, a part of something that is left after the other parts have been used, removed, destroyed, etc., we can conclude that authors used “ruins” to replace “remnants” mentioned before. However, the translator did not recognize that there is the reiteration between these two sentences. In TT1, the translation of the first sentence is fluent and correct, but it did not form the same semantic coherence as the source text. In English, if a word was used again and again, it causes bad style. And the elegant repetition should be used to avoid simple repetition, that is, using synonyms. (李坤, 2010: 61) This kind of cohesion is called the cohesion of synonymy. To achieve such cohesion in the translation, the task of a translator is to convey the organization in the source text and then choose the corresponding synonym to restructure the coherence of the source text in the translation. (王东风, 2009: 180) After the thorough analysis, the translator asserted the word of “ruins” is the synonym of the word of “remnants” in the preceding sentence, and “ruins” and “remnants” are formed by authors into the cohesion of synonymy. If we read the TT1 solely, there is nothing wrong in it. However, this version of translation focuses on a one-to-one comparison between the source text and the target text rather than semantic relationship between sentences. (王东风, 2009: 168) The source text is ordered and connected, so these characteristics should be expressed in the target text and the readers in target language have the same feeling while they read the target text as the readers in source language while they read the source text. The translator translated it into “遗迹”. Therefore, the cohesive ties of the source text are reflected in the target text.

3.3.2 Inferring through the Context

In the process of translation, the grammatical characteristics are an automated structural choice. And a translator can translate it if she understands the grammar in the source text. However, it is very difficult for a translator to understand and express the semantic characteristics in the source text. So it allows translators to combine the context to express the coherence in the source text.

Example 14

ST: (a) When Homer sang these lines, perhaps in the ninth century **before our era**, Greece had almost forgotten, though the poet had not, ...

(b) The most famous of those ancient myths ... occurred long before the Trojan War (c. 1200 **B.C.E.**).

TT1: (a) 当荷马吟唱这些诗句时, 也许是离我们已有九世纪之遥, 尽管荷马没有忘记, 但是世人几乎遗忘了古希腊, ……。

(b) 这些古老的神话中, 最为著名的……发生在特洛伊战争(约公元前 1200 年) 很久之前。

TT2: (a) 当荷马吟唱这些诗句时, 也许是在公元前 9 世纪, 尽管世人都已遗忘, 但荷马没有忘记, ……。

(b) 这些古老的神话中, 最为著名的……发生在特洛伊战争(约公元前 1200 年) 很久之前。

Analysis: While translating the temporal adverbial of “before our era” at first, the translator translated it according to its apparent meaning. In TT1, she absolutely thought that “our era” is the era where her and readers live in, that is, 21st century. So the translator translated into “离我们已有九世纪之遥” which refers to the 12th century AD(1101-1200). But when she read the TT1, she found the incoherence of the translation. Homer was an ancient Greek poet, composing two of the great epic poems of ancient Greece: the “Iliad” and the “Odyssey”. He was obviously not a person lived in the 12th century. So it acquires the translator to combine the context and find the coherence in the passage. Before the ST, here is a sentence -- In his acclaimed book *The Life of Greece*, Will Durant wrote. The ST is the content that Will Durant wrote in his book *The Life of Greece*. So the translator again misunderstood the word “our” in “before our era” means Will’s era. Will was an American writer, historian, and philosopher from 1885-1981. Therefore, the translator tried to translate it into “在公元 11 世纪”. But she immediately denied this thought which is also an obvious error. The translator thought she confused the word of “era”, and then she searched the word in the Oxford Advanced Learner’s English-Chinese Dictionary. Its meaning in English

is: a period of time, usually in history, that is different from other periods because of particular characteristics or events, which should be translated into “纪元” in Chinese not “时代”. If it was considered into “在我们所处的纪元前” in Chinese, it makes sense. After carefully reading the whole text again, the translator noticed authors have used “B.C.E.” many times. For example, in the paragraph 7, the authors mention that the most famous of those ancient myths has been considered that it occurred before 1200 B.C.E. The translator also made the connection between the *Odyssey* and the Trojan War. Then the translator realized that the semantic cohesion between “before our era” and “B.C.E.”. In this context, “before our era” is the synonymous phrase of “B.C.E.”. English stylists think unintentional repetition is careless, clumsy and boring. (连淑能, 1993: 176) Here, authors remained what Will wrote and combined it with “B. C. E.” in the passage into semantic coherence, which is called the cohesion of synonymy. And this kind of coherence is remote tie, so it is easy to ignore it. After fully comprehension, the translator has not only known “before our era” at the lexical level, but also at the semantic level.

Example 15

ST: (a) Now in this island of Atlantis there was a great and wonderful empire which had rule over the whole island and several others, and over parts of **the continent**....

(b) They probably devastated the coasts of many islands ..., and overwhelmed coastal settlements on the **mainland** as well as on Crete.

(c) There, strategically located between Crete and the Greek **mainland**, they found an archipelago....

TT1: (a) 现在，在亚特兰蒂斯岛上，有一个伟大而奇妙的帝国统治着这个岛屿和其他几个岛屿，以及整个**大陆**的部分地区……

(b) 它们可能破坏了……许多岛屿的海岸，并淹没了**大陆**和克里特岛上的沿海定居点。

(c) 他们发现了锡拉岛，它是克里特岛和希腊大陆之间的战略要地，……

TT2: (a) 在这个叫“亚特兰蒂斯”的岛上，曾有一个伟大而美妙的帝国，

它统治着整个岛屿和其他几个小岛，以及整个希腊大陆的部分地区。……

(b) 它们可能破坏了……许多岛屿的海岸，并淹没了希腊大陆和克里特岛上的沿海定居点。

(c) 他们发现了锡拉岛是克里特岛和希腊大陆之间的战略要地，……

Analysis: In ST, “mainland” in the sentence (a) and (b) has no premodifier -- “Greek”, but the premodifier appears in the sentence (c). These three sentences in the ST has a remote tie and have the same word -- “mainland” to form the cohesion of repetition in reiteration. However, the translator focused on each individual sentence rather than the whole passage. In TT1, the translator translated “the continent” into “大陆”, which seems right. However, readers in the target language may ask what exactly does “大陆” mean. To be honest, the translator did not know the specific meaning of “大陆” because she did not understand the implicit cohesion here at first. When she realized that there is a mistake in TT1, she decided to combine the context to comprehend and analyze it. In this passage, authors illustrate that the story of Atlantis may reflect memories of the destruction of Thera and Crete may be Atlantis from many aspects and even put forward the question of “the Bronze Age eruption of Thera is the destroyer of Atlantis”. Authors show Atlantis and Thera have the same location, history and demise time. In ST, it describes Atlantis’ political domination, which is also the same as Crete’s. In the source text, authors introduce that Crete dominated the eastern Mediterranean world including Greek mainland. In Oxford Advanced Learner’s English-Chinese Dictionary, “continent” means one of the large land masses of the earth such as Europe, Asia or Africa. “Mainland” means the main area of land a country, not including any islands near to it. We can see that these two words are synonymous. It is the cohesion of synonymy. The noun phrase of “Greek mainland” has been showed many times, however, it is very difficult to discover the relation between “continent” and “Greek mainland” if the translator did not combine the context to analyze the source text.

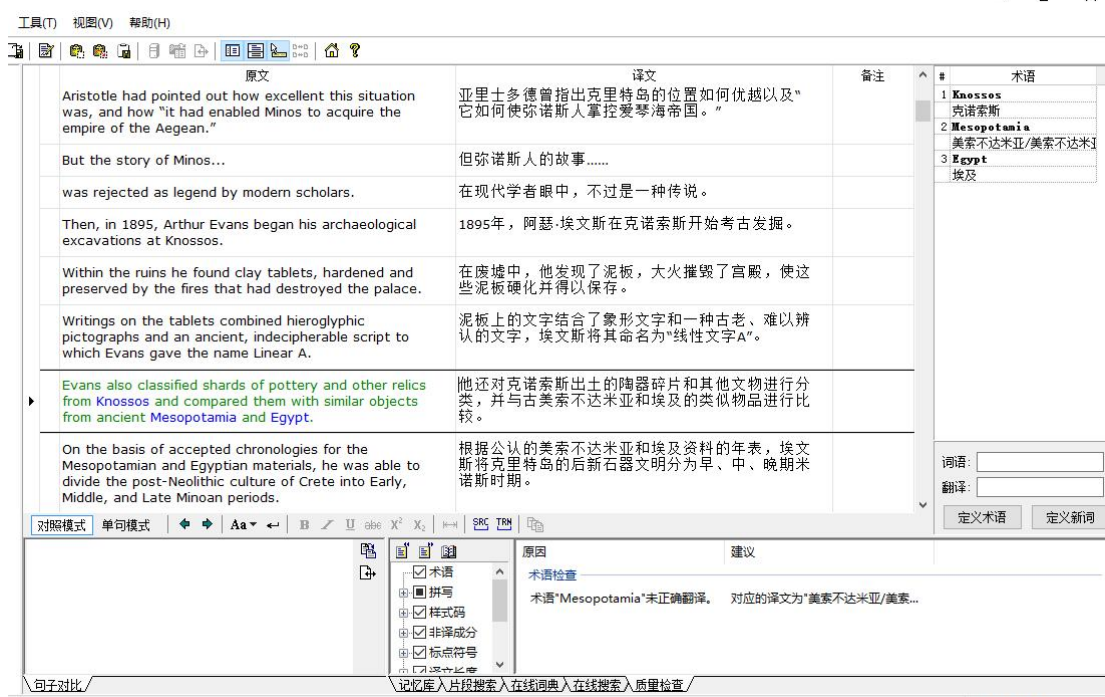
Chapter 4 Conclusion

A complete translation practice cannot be separated from the quality control and the major findings of this translation practice. In this chapter, the translator will introduce the process of quality control, her gains from this practice and limitations of this translation practice.

4.1 Quality Control

Quality control is the last step of the process of translation. It is necessary for the translation to check and revise it again and again. On the basis of self-revision, the translator invited members of the translation team and her tutor respectively to revise the translation. The translation was then revised with their comments.

The first revision is self-review. The translator used the Snowman Translation Software to correct grammar and punctuation errors. She checked the original text for obvious omissions and mistranslation, and tested the terminology for accuracy and consistency. And then she read through the whole text to see if it fit the Chinese language after exported it from the software.



After self-revision, the translator asked members of the translation team to revise the translation. They suggested the translator add conjunctions to increase discourse coherence. And the three of them work together to discuss and ascertain terminologies to ensure their uniformity.

On this basis, the translator submitted the translation to the tutor for checking. The tutors made relevant comments and provided targeted guidance to the translators in terms of linguistic style, chapter articulation, semantic coherence and other aspects of the translations. According to the tutor's comments and guidance, the translator made serious revisions and finally formed the satisfactory translation.

4.2 Gains

In this task, my gains are as follows:

Firstly, in the process of translation preparation, professional knowledge should be known and accumulated to ensure the integrity and accuracy of the translation. The source text is about Thera's eruption impacting human history. It requires the translator to learn about Thera's geographical location and the reasons why it formed volcanic eruption, and know roughly about the history of ancient Greek. Thus, the

translator looked up information and read books about these topics in the process of pre-translation, which improves the translation's quality and broadens the translator's horizon. Besides, the translator has benefited a lot in using translation tools and formulating the glossary. What she has learned about the usage of translation tools in the class should be applied into practice. In this task, the proficiency of translation tools has been improved through solving the problems of usage of translation tools.

Secondly, this report has studied problems about the translation of place names in Eastern Mediterranean, parentheses and semantic coherence. So the translator has further understood of them and handle many translation methods such as transliteration, embedding and recasting. For place names which not appear in dictionaries, there are two solutions: searching parallel texts and transliteration. Those place names' translation cannot be looked up in dictionaries, but can be found in professional texts. Searching parallel texts solved such problem. And the method of transliteration is the solution to place names even not in parallel texts. For parentheses in long sentences, the translator mainly talked about the method of using parenthesis marks, embedding and recasting. If the parenthesis further illustrated a head word which is an object, it is better to put parenthesis marks behind the head word and lead to the content of parentheses. If the parenthesis was the supplementary description of a person, using the method of embedding is a better option. If the parenthesis showed the background of the content, the method of recasting can make sure the translation to fit more Chinese expression habits. And about reiteration in semantic coherence, the translator combined the meaning of cohesive words and the context and inferred through them to solve problems. For obvious reiteration relations in the source text, the translator found synonymous words to form same cohesion in the target text through the meaning of cohesive words. And for implicit reiteration in the source text, the translator analyzed the context to translate them.

Finally, in this whole task, the translator benefited more than just the improvement of translation skills and competence. It prompted the discussion with her tutor and group members, and different learning methods and modes of thinking are

worth learning.

4.3 Limitations

There are still some limitations in this report.

First of all, in this report, the translator only talked about prepositional and other phrases and clauses for these kinds of parentheses are in the majority of parentheses in the source text. Thus, whether the methods of using parentheses marks, embedding and recasting are applicable to other types of parentheses is unclear, lacking objectivity and entirety.

Secondly, the familiarity with translation tools should be strengthened. Due to the infrequent use of translation tools, the translator spent a lot of time on it this time. Practice makes perfect. Only constant practice can improve the master of these translation tools.

Finally, the master of Chinese should be improved. After full comprehension, how to use the target language to organize the target text is the key of the translation. Chinese is a kind of language which is concise, simplex and paratactic. However, most translation of the first version is verbose and difficult and has redundant words. Although the final translation is much better, it is essential for the translator to improve Chinese skills.

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Appendices

Appendix 1: Glossary

序号	英文	中文
1	Aegeus	埃勾斯
2	Aegina	埃伊纳岛
3	Akrotiri	阿克罗蒂里镇
4	Amorgos	阿莫尔戈斯群岛
5	Anáfi	阿纳菲岛
6	Androgeus	安德罗格洛斯
7	Angelos Galanopoulos	安杰洛斯·加拉诺普洛斯
8	Argonauts	阿戈尔斯英雄
9	Arthur Evans	阿瑟·埃文斯
10	Asia Minor	小亚细亚半岛
11	Aspronisi	阿斯普罗尼西岛
12	asthenosphere	软流圈
13	Atlantis	亚特兰蒂斯
14	Atlas	阿特拉斯
15	Auguste Nicaise	奥古斯特·尼凯斯
16	bristlecone pines	亚狐尾松
17	Caphtor	迦斐托
18	Charles Lyell	查尔斯·莱伊尔
19	Chieh	桀
20	Christiana	克里斯蒂安娜火山岛
21	Clito	克莱托
22	Colchis	科尔基斯
23	collision zone	碰撞带

24	Crete	克里特岛
25	Critias	《克里底亚篇》
26	crust	地壳
27	Cyclades islands/ Cycladic islands	基克拉泽斯群岛
28	Daedalus	代达罗斯
29	Deucalion	杜卡利翁
30	Dorothy B. Vitaliano	桃乐茜·B·亚诺
31	Dropides	德洛皮德斯
32	fault	断层
33	geotumor	地质肿瘤
34	Gilgamesh epic	《吉尔伽美什史诗》
35	Gulf of Euboe	埃维亚湾
36	Hebrew	希伯来
37	Hellen	赫楞
38	Hellenic volcanic arc	希腊火山弧
39	Hephaestus	赫菲斯托斯
40	Herodotus	希罗多德
41	Hull	赫尔
42	Ipuwer	伊浦味
43	Iráklion	伊拉克利翁
44	Jason	伊阿宋
45	Java	爪哇
46	K. T. Frost	K·T·弗罗斯特
47	Kameni fault	卡梅尼断层
48	King Minos	米诺斯王
49	Kleisithera	莱西瑟拉
50	Knossos	克诺索斯王宫

51	Kolumbo	科伦博火山
52	Krakatau	喀拉喀托火山
53	lava	熔岩
54	Legends of the Earth	《地球的传说》
55	Leiden	莱顿
56	Leukos	莱科斯
57	Likades islands	利卡塞斯群岛
58	lithosphere	岩石圈
59	Louis Figuier	路易斯·菲吉耶
60	magma	岩浆
61	mantle	地幔
62	Medea	美狄亚
63	Megalo Vouno	梅加洛沃诺断层
64	Mesopotamia	美索不达米亚
65	Methana	迈萨纳岛
66	Michael Ventris	迈克尔·文特里斯
67	Milos	米洛斯岛
68	Minoan	米诺斯人
69	Minotaur	弥诺陶洛斯
70	Mycenae	迈锡尼
71	Nea Kameni	新卡梅尼岛
72	Nyseros	尼西罗斯岛
73	Palaea Kameni	帕拉亚卡梅尼岛
74	Pasiphae	帕西菲
75	Peloponnesus	伯罗奔尼撒
76	Philistines	非利士人
77	Phoenicia	腓尼基
78	Pillars of Heracles	海格力斯之柱

79	Pompeii	庞贝
80	pyroclastic flows	碎屑流
81	Pyrrha	皮拉
82	Rhodes	罗德岛
83	Saint Irene	圣·爱莲
84	Saïs	赛易斯
85	Santorini	桑托林岛
86	Saronic Gulf	萨龙湾
87	scoria/ cinders	火山渣
88	Solon	梭伦
89	Spyridon Marinatos	斯皮里登·马里纳托斯
90	Strait of Gibraltar	直布罗陀海峡
91	Suez Canal	苏伊士运河
92	Sumatra	苏门答腊
93	Sunda Strait	巽他海峡
94	Talos	塔罗斯
95	the Kameni islands	卡梅尼群岛
96	The Life of Greece	《希腊的生活》
97	Thera	锡拉岛
98	Theras	塞拉斯
99	Therasia	锡拉西亚岛
100	Thucydides	修昔底德
101	Thutmose III	图特摩斯三世
102	Timaeus	《蒂迈欧篇》
103	VEI/ volcanic explosivity index	火山爆发指数
104	Will Durant	威尔·杜兰特

Appendix 2: Source Text and Target Text

Source Text	Target Text
The Bronze Age Eruption of Thera: Destroyer of Atlantis and Minoan Crete?	青铜时代锡拉岛火山喷发：亚特兰蒂斯和克里特岛米诺斯文明的毁灭者吗？
There was a time when the Mediterranean area was the hub of European, Egyptian, and Near Eastern civilizations, and during that time there was an eruption whose violence possibly has never been equaled in the memory of man anywhere on earth.	曾经，地中海地区是欧洲、埃及和古代近东文明中心，也就是这段时间，发生了一次火山喷发，其严重程度超出地球上任何人的想象。
Dorothy B. Vitaliano, Legends of the Earth	——桃乐茜·B·亚诺（Dorothy B. Vitaliano），《地球的传说》（Legends of the Earth）
A SMALL GROUP OF ISLANDS known collectively as Santorini lies in the eastern Mediterranean Sea about 110 kilometers north of Crete. The archipelago is roughly elliptical in outline and measures 13 by 18 kilometers. It comprises two large islands, Thera and Therasia, and three smaller islands named Aspronisi, Nea Kameni, and Palaea Kameni (see Figure 3-1). Santorini was named by early Venetians in honor of Saint	桑托林岛（Santorini）是坐落在地中海东部的一群小岛，距克里特岛以北约 110 千米远。桑托林岛轮廓大致呈椭圆形，长 18 千米，宽 13 千米。它包括两个大岛——锡拉岛（Thera）和锡拉西亚岛（Therasia），和三个较小的岛——阿斯普罗尼西岛（Aspronisi）、新卡梅尼岛（Nea Kameni）、帕拉亚卡梅尼岛（Palaea Kameni）（见图 3-1）。早期威尼斯人为纪念圣·爱莲（Saint Irene）将“锡拉岛”改为“桑托林岛”[桑托林岛：一般认为桑托林岛是在 13 世

Irene.	纪十字军东征和 1204 年君士坦丁堡陷落时由威尼斯人命名的。“桑托林”是“圣爱莲”的希腊语名称,意为“和平”。——译者注]。
Unlike most other Greek islands, which dot the blue Aegean Sea with masses of white limestone and marble, Santorini's islands are dark and brooding. They are the remains of a great volcano that had its last major eruption more than 3,500 years ago, during the late Bronze Age. The eruption created a huge caldron-shaped depression, or caldera, which was superimposed upon other calderas that had formed during earlier eruptions. Thera, Therasia, and Aspronisi are parts of the caldera's rim that remain above sea level. Between those islands the sea fills a deep, elliptical caldera measuring about 6 by 11 kilometers. Its greatest depth is more than 300 meters, and its sides -- the caldera walls -- rise in sheer, forbidding cliffs more than 400 meters high in places. Within the caldera the small islands of Palaea Kamani (old burnt island) and Nea Kamani (new burnt island), formed by post - Bronze	在希腊大多数岛屿都用白色的石灰岩和大理石建造,白色的建筑物点缀着蔚蓝的爱情海,但是桑托林岛并非如此,它暗沉,透着森然。桑托林岛是一座大火山的遗迹,在 3500 多年前的青铜时代晚期最后一次大喷发。这次喷发形成了一个巨大的碗状洼地,形成一个破火山口,它叠加在早期火山喷发时形成的其他破火山口上。火山口高于海平面,锡拉岛、锡拉西亚岛和阿斯普罗尼西岛都坐落在火山口边缘。海水涌入这个深深的、呈椭圆形的火山口,该火山口长 11 千米,宽 6 千米。破火山口最深处达 300 余米,而破火山口的两侧墙壁,有些地方 400 余米高,垂直陡峭,令人望而却步。在破火山口内,一些小岛如“帕拉亚卡梅尼”(意为“已燃烧过的岛”)和“新卡梅尼”(意为“新近燃烧过的岛”),是由后青铜时代的火山形成的,它们代表了正在形成的新火山。

Age volcanism, represent a new volcano in the making.	
Thera, named for an early Greek conqueror named Theras, is the largest of the islands. We use this Greek name also for the ancient volcano, the Bronze Age eruption of which was certainly among the most devastating natural catastrophes in all of human history. Vast quantities of volcanic debris were hurled into the atmosphere. Much of it fell to earth on Thera itself, forming layers of ash and pumice up to 60 meters thick. The finer material was wafted by high-altitude winds as far as Crete, Asia Minor, and northeastern Africa. Earthquakes that preceded and possibly initiated the eruption are thought to have caused much damage to human habitations throughout the eastern Mediterranean.	锡拉岛是以早期希腊征服者塞拉斯（Theras）命名的，是这些岛屿中最大的一个。我们也用这个名字称呼这座古老的火山，青铜时代的锡拉火山喷发无疑是人类历史上最具破坏性的自然灾害之一。大量的火山碎屑投射到大气层，大部分落到了锡拉岛，形成了厚达 60 米的火山灰和浮岩层。较轻的物质被高空风吹到克里特岛、小亚细亚半岛和非洲东北部。锡拉火山喷发前可能发生了地震，也许正是地震引发了这场喷发。不管怎样，地震被认为对整个地中海东部居民造成很大的破坏。
Moreover, most geologists agree that when the caldera was formed, seawater poured into the abyss and created tsunamis that surged across the region in all directions. They probably devastated the coasts of many islands in the Aegean Sea,	此外，大多数地质学家认为，当火山口形成时，海水涌入其中，诱发了海啸，海啸从各个方向席卷了这个地方。它们可能破坏了希腊和土耳其之间的爱琴海上许多岛屿的海岸，并淹没了希腊大陆和克里特岛上的沿海定居点。

between Greece and Turkey, and overwhelmed coastal settlements on the mainland as well as on Crete.	
The Santorini archipelago and the nearby island of Anáfi are the southernmost of the Cyclades islands, so called because a number of them form a rough circle. In the early Bronze Age, Santorini was known to the Greeks as Stronghyle, “the round one” -- no doubt an allusion to its circular outline. Thera’s Bronze Age communities evolved out of Neolithic settlements that thrived in fertile river valleys along the Aegean coast of present-day Turkey and also in parts of mainland Greece. We know the island was settled by Bronze Age people because remnants of stone walls and houses have been found beneath the ash and pumice on Thera and Therasia. Pottery found in the ruins shows that the Bronze Age culture was Minoan, from Crete. The large island of Crete developed a unique and powerful Bronze Age culture, which has come to be known as Minoan, after King Minos of Greek mythology.	桑托林岛和附近的阿纳菲岛（Anáfi）位于基克拉泽斯群岛（Cyclades islands）的最南端。“基克拉泽斯”在希腊语中意为“环形”，几个小岛围成一个大致的圆形轮廓。在青铜时代早期，希腊人称桑托林为“圆形岛屿”（Stronghyle），暗示了其轮廓。早在新石器时代，人们就定居在今土耳其境内的爱琴海沿岸肥沃的山谷及希腊大陆的部分地区，青铜时代锡拉岛上的居住点由此发展而来。在锡拉岛和锡拉岛西亚岛的火山灰和浮岩下发现了石墙和房屋的遗迹。而遗迹中出土的陶器则表明，这些青铜文明是来自克里特岛上的米诺斯文明。偌大的克里特岛发展出一种独特、极具影响力的青铜时代文明，称为米诺斯文明，以希腊神话中的米诺斯国王命名。

The ancient Minoans had developed a written language known today as Linear A, samples of which have been unearthed on Crete -- but no one has yet been able to decipher the script. And the Greeks had not yet evolved a written language when Thera erupted. Thus there is no historical record of one of the greatest geological disasters to befall humankind. Myths that have been handed down through the ages, however, almost certainly incorporate memories of the catastrophe.	古老的米诺斯人已经创造出一种文字，今天被称为“线形文字 A”，其样本在克里特岛出土，但至今没有人能够破译这种文字。锡拉岛喷发火山时，古希腊还未进化出文字。因此，关于这场人类遭遇过的最大地质灾害之一没有任何历史记录。然而，历代流传下来的神话，几乎可以肯定包含了对这场灾难的记忆。
The Greek myths of King Minos, Theseus and the Minotaur, Deucalion's flood, and even parts of the voyage of the Argonauts all may be rooted in ancestral memories of the eruption of Thera. The most famous of those ancient myths -- the story of the “lost continent” of Atlantis -- may reflect mixed memories of the violent destruction of Santorini (Thera) and the depopulation of nearby Crete, which the Greek historian Herodotus tells us occurred long before the Trojan War (c. 1200 B.C.E.). According to some	希腊神话中的米诺斯王、忒修斯和牛头怪弥诺陶洛斯、杜卡利翁的洪水，还有阿戈尔斯英雄一部分航程经历，都可能植根于祖先对锡拉火山喷发的记忆。这些古老的神话中，最为著名的是亚特兰蒂斯 —— “失落的大陆”的传说，这个传说或许反映了人们对桑托林岛（锡拉岛）遭受的暴烈毁坏和附近克里特岛人口减少的混合记忆。古希腊历史学家希罗多德（Herodotus）认为，锡拉岛火山喷发发生在特洛伊战争（约公元前 1200 年）很久之前。一些权威人士声称圣经中关于埃及瘟疫的故事也可能和这次火山喷发有关。本章稍后

authorities, the biblical stories about the plagues of Egypt also could have had their origin in events related to effects of the Bronze Age eruption. Each of these myths and accounts is discussed in more detail later in this chapter.	将一一进行详述。
Thera is one of a string of volcanoes that make up the Hellenic volcanic arc (Figure 3-2), which includes the Likades islands in the northern Gulf of Euboea in Central Greece, the islands of Aegina and Methana in the Saronic Gulf near Athens, the Aegean islands of Milos and Santorini (Thera), and Nyseros, an island near the coast of Turkey. Compared with volcanoes elsewhere, especially those in the Ring of Fire around the Pacific Ocean, the volcanoes of Greece are small and widely spaced. Their origin, however, is similar to that of their Pacific counter- parts in that they are attributed to collision between plates of the earth' s lithosphere -- that is, the crust and the uppermost portion of the mantle.	锡拉岛是希腊火山弧的一部分（见图 3-2）。希腊火山弧包括希腊中部埃维亚湾（Gulf of Euboea）北部的利卡塞斯群岛（Likades islands）、雅典附近萨龙湾（Saronic Gulf）的埃伊纳岛（Aegina）和迈萨纳岛（Methana），爱琴海的米洛斯岛和桑托林岛（锡拉岛）以及土耳其海岸附近的尼西罗斯岛（Nyseros）。与其他火山相比，特别是环太平洋“火环”中的火山，希腊的火山体积小，分布广。但是火山的形成原因相似，都是由于地球岩石圈板块（即地壳和地幔最上部）之间的碰撞而形成
The African plate is drifting	非洲板块在向东漂移，同时在逆

eastward and simultaneously rotating counterclockwise. Thus northeastern Africa is swinging northward and colliding with the Eurasian plate. What is believed to be part of the African plate is being subducted beneath the Aegean Sea (see Figure 3-2). The tectonic setting of the Aegean area is complicated by motion of the Arabian platelet, which is moving northward and forcing the Anatolian platelet (Turkey) westward, toward Greece. Africa's northeasterly motion and the westward push of Anatolia are squeezing the lithosphere beneath the Aegean Sea and causing it to bulge upward in a sort of "geotumor," giving rise to the Cycladic islands.	时针旋转。因此，非洲东北部在向北摆动，与欧亚板块发生碰撞。一部分非洲板块被认为正在爱琴海下方俯冲（见图 3-2）。阿拉伯板块向北移动，迫使安纳托利亚板块（土耳其）向西朝着希腊移动，爱琴海地区的构造环境也因此变得复杂。这样，非洲板块的东北运动和安纳托利亚的西向运动挤压了爱琴海下方的岩石圈，使其以一种“地质肿瘤”（geotumor）的形式向上隆起，从而形成基克拉泽斯群岛。
This convergence of plates has produced one of the most tectonically active regions in the broad collision zone between Africa and Eurasia. As much as 5 percent of all the energy released globally by earthquakes comes from this relatively small part of the earth's lithosphere.	这种板块汇聚使得非洲和欧亚板块之间广阔的碰撞带成为最活跃的构造区之一。全球地震释放的能量中，有 5%来自这一相对较小的地球岩石圈。
Subduction of the African plate has led to volcanism. At a depth of	非洲板块俯冲导致了火山活动。在地下深约 150 千米处，软流圈——

about 150 kilometers, the asthenosphere -- the ductile, plastic portion of the mantle beneath the lithosphere -- locally becomes molten. Blobs of magma then rise into the lower crust, intrude into faults caused by bulging and stretching of the Aegean lithosphere, and create the volcanoes of the Hellenic arc.	岩石圈下方地幔的韧性塑性部分——局部熔融。岩浆团随后上升到下地壳，侵入爱琴海岩石圈因隆起和拉伸产生的断层，从而形成希腊火山弧。
Thera is located in an area where one fault ends and another begins (see Figure 3-3). One, the Kameni fault, extends from the volcanic island of Christiana, 18 kilometers southwest of Thera, to the Kameni islands in the center of Thera's caldera. The other, named the Megalo Vouno fault after a town on the north shore of Thera, extends northeastward from Thera to the submerged volcano of Kolumbo, about 10 kilometers from Thera, and from there it continues along the southeast coast of the island of Amorgos. The age of the most recent volcanic activity on Christiana is unknown because that island is privately owned and few geologists have had access to it. Kolumbo last erupted in 1650 C.E. Violent	锡拉岛位于两个断层交接处（见图 3-3）。一个断层是卡梅尼断层，从锡拉岛西南方向 18 千米远的克里斯蒂安娜火山岛到锡拉岛破火山口中心的卡梅尼群岛。另一个断层是梅加洛沃诺断层（Megalo Vouno），以锡拉岛北岸的一个城镇命名，从锡拉岛东北方向约 10 千米的科伦博火山口（Kolumbo），到阿莫尔戈斯群岛（Amorgos）的东南海岸。因为克里斯蒂安娜火山岛属于私人财产，鲜有地质学家能进入，因此，人们并不清楚它最近一次火山活动的年代。科伦博上一次喷发是在公元 1650 年，伴随着海底发生剧烈爆炸，喷发的熔岩足以形成一个小岛。然而，波浪作用很快将新山顶侵蚀到海面以下的现有水平。

submarine explosions were accompanied by the emission of lava flows with sufficient volume to form a small island. Wave action, however, soon eroded the top of the new mountain to its present level below the surface of the sea.	
As one enters the Santorini caldera by sea, the view is dominated by steep, towering cliffs, which largely surround the caldera and present a dramatic cross section of pale red and white volcanic ash and pumice alternating with layers of black lava. On the west side of the sickle-shaped island of Thera, the caldera walls reach a maximum elevation of more than 350 meters above sea level. This thick stratigraphic section is crowned by a layer of pink to white ash and pumice almost 60 meters deep in places, deposited during the Bronze Age eruption.	当人们坐船驶入桑托林火山口，陡峭高耸的悬崖映入眼帘，大部分悬崖围绕着火山口，峭壁呈现出淡红色、白色的火山灰与浮石，与黑色的熔岩层相互交错，十分引人注目。锡拉岛呈镰刀形状，在它的西侧，岩壁海拔超过 350 米。顶部覆盖着一层由粉到白渐变的火山灰和浮岩，高达 60 米，这是青铜时代喷发的产物。
The rocks exposed in Thera's cliffs represent several hundred thousand years of intermittent volcanic activity. Although the age of the oldest volcanic deposits cannot be determined, since they are below sea	锡拉岛悬崖上裸露的岩石代表了几十万年间歇性的火山活动。由于年代最久远的火山沉积物在海下，且上面覆盖了新的物质，无法精确时间，但仍可以推断出锡拉岛的火山活动可能始于 100 万至 200 万年前。

level and are overlain by younger material, the island's volcanism probably commenced 1 to 2 million years ago.	
The earliest major eruption for which dates are available occurred about 100,000 years ago above the Kameni fault. It left a deposit of pumice almost 30 meters thick and was followed by a second, more powerful blast that deposited almost 60 meters of pumice over much of central and southern Thera. Part of the volcano collapsed after those events and left a deep caldera in the south-central part of the island (see Figure 3-3). Another major eruption occurred in the same area about 80,000 years ago. Despite partial filling by volcanic products of later eruptions, the southern caldera is more than 250 meters deep.	有时间记载的最早的一次大喷发发生在约 10 万年前的卡梅尼断层上方。火山喷发留下了近 30 米厚的浮岩沉积物。接着又发生了更强烈的喷发,在锡拉岛中部和南部大部分地区沉积了近 60 米的浮岩。火山喷发后,一部分火山坍塌,在锡拉岛的中南部留下了一个深深的破火山口(见图 3-3)。大约 8 万年前,该地区又发生了一次大喷发。尽管这次喷发的火山喷出物填充了锡拉岛南部的部分破火山口,但火山口的深度还是超过 250 米。
The center of volcanic activity then shifted northward, and around 54,000 years ago an eruption above the Megalo Vouno fault deposited a layer of scoria, or cinders, almost 20 meters thick in places. Some 37,000 years ago (about 35,000 B.C.E.)	随后火山活动的中心向北移,大约 54000 年前,梅加洛沃诺断层上方发生了一次喷发,一些地方沉积了近 20 米厚的火山渣。大约 37000 年前(约公元前 35000 年),又一次规模更大的火山喷发沉积了 70 米厚的火山渣。这造成桑托林群岛的中北部形

another, much larger eruption produced a layer of scoria as much as 70 meters thick. As a result of those events, a new depression formed in the north-central part of what is today the Santorini archipelago. Around 16,000 B.C.E. that caldera was deepened by an eruption that left more than 40 meters of pyroclastic (fragmental) deposits on the islands. During the following fourteen centuries volcanic activity was restricted to the rising of new batches of magma into the Kameni fault and the growth of one or more volcanoes approximately where the Kameni islands are today. There were no more large eruptions until the Bronze Age.	成了新的凹陷。大约在公元前 16000 年, 又一次火山喷发使破火山口凹陷更深, 岛上沉积了 40 多米的火山碎屑。在接下来的十四世纪里, 火山活动主要还是在卡梅尼断层, 一批批新岩浆上升, 在今天的卡梅尼群岛生成一座或多座火山。直至青铜时代才爆发了大规模的火山喷发。
The first settlers arrived on Thera sometime in the fourth or fifth millennium B.C.E. There, strategically located between Crete and the Greek mainland, they found an archipelago that virtually surrounded two large bays created by submerged calderas. Few other islands in the Cyclades had such well-protected harbors. Thera's red and black rocks and its steaming hot	锡拉岛的第一批居民出现在公元前 4 千年或 5 千年。他们发现了锡拉岛是克里特岛和希腊大陆之间的战略要地, 并且庇护着两个由破火山口形成的大海湾。基克拉泽斯群岛中其他岛屿就没有如此受保护港湾。锡拉岛上的岩石是红色和黑色的, 还有冒着热气的温泉, 这些与希腊其他岛屿上白色的石灰崖壁形成鲜明对比。在这样火山环绕的环境中, 早期居民一定觉得自己接近神灵。

springs provided a strong contrast to the other Greek islands, with their white limestone cliffs. In these volcanic surroundings, the early settlers must have thought themselves close to the gods.	
Then came the Bronze Age eruption that created the Santorini archipelago as we see it today. The eruption had four phases, as indicated by the succession of volcanic deposits. In the first explosion, ash and pumice were ejected high into the atmosphere and mostly fell back upon Thera and into the nearby sea. Those deposits have a maximum thickness of 6 meters on present-day Thera, and the thickness decreases southwestward to as little as 25 centimeters on the small island of Aspronisi. When the eruption column collapsed, it sent pyroclastic flows -- clouds of superheated gases and fragmental material -- bursting across the landscape. That first phase, along with earlier earthquakes, made Thera uninhabitable.	接着青铜时代，锡拉岛火山喷发，形成了我们今天看到的桑托林群岛。火山沉积物的演替表明了火山喷发经历了四次。在第一次喷发中，喷射到高空的火山灰和浮岩大部分又落回了锡拉岛和附近的大海中。在今天的锡拉岛这些沉积物的厚度高达6米，沉积物的厚度沿着西南方向递减，在阿斯普罗尼西岛上只有25厘米厚。当喷发柱坍塌时，过热的气体和碎片物质组成的火山碎屑流席卷整个锡拉岛。这一阶段的火山喷发加上早期的地震，使得锡拉岛不再适合居住。
Data from archaeological sites on Crete suggest that the initial phase of volcanism was followed by a period,	克里特岛考古遗址的数据表明，火山活动的初始阶段过后是一段相对平静的时期，大概长达20年。有

perhaps twenty years long, of relative quiet. Signs that a few buildings on Thera were repaired indicate that some people returned to the island during that hiatus, but they either left again or were killed by subsequent volcanic activity.	迹象表明，锡拉岛上的一些建筑修缮过，这说明一些人在此期间返回了锡拉岛，但后来他们要么又离开了，要么死于第二次火山喷发。
The second volcanic phase was characterized by steam eruptions. Seawater entered the bowels of the crater along faults, and when it contacted hot magma in the volcano's conduit, it erupted as powerful blasts of steam and ash. Those eruptions were followed by rapidly moving mudflows that formed deposits as much as 12 meters thick.	第二次火山喷发的特点是蒸汽喷发。海水沿着断层进入火山口的内部，当它与火山管道中的热岩浆接触时，生成大量蒸汽和火山灰。火山喷发后出现快速流动的泥流，形成了多达 12 米厚的沉积物。
The third phase followed close upon the second and was the most destructive, as seawater probably entered the upper part of the magma chamber itself. The resulting blasts left ash, pumice, and large rock fragments in accumulations as much as 60 meters thick. The explosions must have been loud enough to have been heard throughout southern Europe, northern Africa, and the Middle East. Undoubtedly they blew such large	第三次火山喷发紧随第二次，可能是由于海水进入了岩浆室的上部，导致这一次破坏性最大。这次喷发留下了 60 米厚的灰烬、浮岩和大块岩石碎片。火山喷发的声音大到整个南欧、北非和中东都能听到。大量的火山灰和气溶胶被带到大气中，以至于地中海东部大部分地区的天空连续几日昏暗不明。这些假设是基于 1883 年爪哇和苏门答腊之间的巽他海峡（Sunda Strait）的喀拉喀托火山喷发相比较得出的。据估计，1883 年的

volumes of volcanic dust and aerosols into the atmosphere that sunlight was dimmed over much of the eastern Mediterranean region for several days. These assumptions are based on comparison with the eruption of Krakatau, in the Sunda Strait between Java and Sumatra, in 1883. That explosion, with an estimated VEI (volcanic explosivity index) of 6, was heard as far as 4,600 kilometers away, and darkness in the region lasted for three days. Thera' s VEI is assumed to have approached a value of 7, considered “ colossal ” by volcanologists.	火山爆发指数（VEI/ volcanic explosivity index）为6，远在4600千米外都能听到，天空昏暗持续三天。锡拉岛的火山爆发指数接近7，火山学家认为这一值是“巨大无比”。
During the fourth phase of the eruption the volcano poured out more pyroclastic flows, which left thick layers of ash, pumice, and rock fragments both on land and on the surrounding sea floor.	第四次火山喷发时，火山喷出了更多的火山碎屑流，在陆地和周围的海底留下了厚厚的火山灰、浮岩和岩石碎片。
Estimates of the volume of the late Bronze Age eruption range from 30 to 60 cubic kilometers. This range represents the cumulative volume of volcanic matter blown from the caldera, including material from former eruptions and new material that	据估计，青铜时代晚期火山喷发的体积在30至60立方千米之间。这个范围代表了从破火山口喷出的火山物质的累积体积，包括以前喷发的物质和从深处岩浆室上升的新物质。由于早期的爆发很有可能加剧了锡拉岛中心的凹陷，较低的估计似乎更

rose from the magma chamber at depth. In view of the fact that earlier blasts may have helped excavate the center of Thera, the lower estimate appears most likely.	有可能。
In any case, the Bronze Age blasts were tremendous. An enormous plume of volcanic debris, as much as 35 kilometers high, was blown toward the east and southeast. Up to 10 centimeters of ash fell on eastern Crete. A drill core from a lake in southwestern Turkey 320 kilometers northeast of Thera includes a layer of Thera's ash almost 13 centimeters thick. Since that layer was compacted by overlying sediments, its original thickness may have been double that. On the island of Rhodes, 210 kilometers east of Thera, a layer of the volcano's ash was found to range from 10 to almost 300 centimeters in thickness, a disparity no doubt resulting from the erosion of ash from higher elevations and its accumulation in depressions. The original thickness remains unknown but probably was at least 30 centimeters. Sediment cores collected in the Nile Delta include a	无论如何,青铜时代锡拉岛火山喷发的威力巨大无比。一股高达 35 千米巨大的火山碎片羽流吹向东部和东南部地区。飘落到克里特岛东部的火山灰厚达 10 厘米。土耳其西南部的一个湖泊,距离锡拉岛 320 千米,其中某个岩心样本有一层来自锡拉岛的火山灰,厚度近 13 厘米。由于火山灰被上覆沉积物压实,其原本厚度可能是目前厚度的两倍。在锡拉岛以东 210 千米的罗德岛 (Rhodes) 上,也发现了一层火山灰,厚度在 10 厘米到近 300 厘米之间不等,这是因为高海拔处火山灰的侵蚀及洼地中的积累造成的。原始厚度仍然未能确定,但至少约有 30 厘米。尼罗河三角洲沉积物岩心中发现一层来自锡拉岛的火山玻璃[火山玻璃 (Volcanic glass): 指由火山喷出的熔岩迅速冷却,而来不及结晶形成的一种玻璃质构造岩石,没有固定的形状。——译者注]碎片,证明了当时火山灰云也飘到了埃及。

layer containing fragments of volcanic glass from Thera, proving that the ash cloud reached Egypt.	
The precise age of the Bronze Age eruption of Thera is in dispute in part because of uncertainties in the dating of ancient materials by the use of radiometry -- that is, the measuring of radiant energy, in this case from a radioactive isotope of carbon known as carbon-14. Many questions have been raised about using carbon-14 because of insufficiently known variations in the amount of that isotope in the atmosphere over time. Moreover, fragments of charred wood, the most common source of carbon-14 samples on Thera, might have been contaminated by carbon-containing gases emitted from pyroclastic deposits. However, evidence presented at the Third International Congress on Thera and the Aegean World, held on Santorini in September 1989, indicates a statistical grouping of radiocarbon dates ranging from about 1690 to 1620 B.C.E. Data from ninety-four samples obtained from five different laboratories led to the conclusion that	锡拉岛火山在青铜时代喷发的确切时间仍有争议, 部分原因是辐射测量法(即测量辐射能)对古代物质的年代测定存在不确定性, 这里主要是使用碳-14。碳-14 在大气中的含量会随时间而变化, 而人们对此变化知之甚少, 所以使用碳-14 进行测量仍有疑问。此外, 锡拉岛上最常见的碳-14 样本来源——烧焦的木头可能已被火山碎屑沉积物排放的含碳气体污染。不过, 1989 年 9 月在桑托林岛举行的“第三届锡拉岛和爱琴海世界”国际大会上提供的证据表明, 放射性碳的数据组中碳-14 的年代可追溯到公元前 1690 年至 1620 年。从五个不同实验室获得的九十四四个样本的结果来看, 根据“概率权衡”, 基本可以推断, 锡拉岛火山喷发的时间是公元前 17 世纪。

“the balance of probabilities” favors those dates in the seventeenth century B.C.E. for the eruption.	
A period of intense volcanic activity is known to have caused global cooling during that period. Volcanic eruptions eject minute droplets of sulfuric acid, which form aerosols in the atmosphere. Veils of aerosol droplets reflect sunlight, hence warmth. A peak in the sulfuric-acid content of annual layers in an ice core from Greenland indicates significant atmospheric pollution by volcanic aerosols around 1645 B.C.E. Frost damage and evidence of poor growth in tree rings from California bristlecone pines and from oak timbers found in Irish peat bogs indicate abnormal cooling between 1620 and 1630 B.C.E. Precise treering records from ancient wood found in Turkey and Sweden provide dates, respectively, of 1628 and 1637 B.C.E.	剧烈的火山活动导致了这段时间全球变冷。火山爆发喷出的微小硫酸液滴，在大气中形成气溶胶，气溶胶形成的雾罩赶走了热量。格陵兰冰芯中年层硫酸含量的峰值表明，公元前 1645 年左右，火山气溶胶对大气造成了严重污染。霜冻破坏、加利福尼亚狐尾松的年轮和爱尔兰泥炭沼泽中的橡树年轮生长不良，这些证据都表明在公元前 1620 年至 1630 年之间气温异常低。在土耳其和瑞典发现的古木年轮记录，分别指向公元前 1628 年和 1637 年。
Moreover, in China at about the same time, during the reign of the emperor Chieh, there were yellow fogs, most likely from sulfuric-acid aerosols, which dimmed the sunlight,	此外，同时期的中国在夏朝末代皇帝桀的统治下。据记载，当时中国出现了黄雾蔽日的景象，这很有可能是由硫酸气溶胶造成的。当时中国异常寒冷，七月出现霜冻现象。异乎寻

according to ancient records. The seasons were abnormally cold, and there was frost in July. Abnormally high rainfall caused floods, which were followed by droughts and famine. All these phenomena correlate well with the time of Thera's eruption, which must have sent clouds of ash and aerosols over much of Asia.	常的降雨量导致了洪水,随之而来的是干旱和饥荒。这些反常现象都与锡拉岛火山喷发的时间契合,锡拉岛火山喷发生产的火山灰和气溶胶一定飘到了亚洲大部分地区。
Many archaeologists have assumed that the demise of Minoan Crete, which they attribute to Thera's eruption, occurred two centuries later. Their evidence rests on linking the styles of ancient pottery found on Crete and in Egypt with historical dates from Egyptian hieroglyphic writings. Thus archaeologists have correlated late Minoan pottery with the reign of Thutmose III, the fifth pharaoh of the Eighteenth Dynasty, who is believed to have occupied his throne sometime between 1504 and 1450 B.C.E. The archaeologists' assumption depends on the accuracy and correct interpretation of ancient Egyptian texts. Rather than relying on such imprecise information, we should accept the globally correlatable	许多考古学家认为,因锡拉火山喷发而导致的克里特岛米诺斯文明的灭亡是发生在两个世纪之后。他们将在克里特岛和埃及两处发现的古代陶器风格进行比较,然后根据古埃及象形文字中的历史纪录进行判断。由此,他们认定,晚期米诺斯陶器与第十八王朝第五位法老图特摩斯三世(Thutmose III)统治的时间相对应,而他担任法老的时间是在公元前1504至1450年之间。联系起来。考古学家的假设依赖古埃及文本记载的准确性和对其的准确阐释。但是与其依赖这种不准确的信息,不如采用全球相关的科学数据。高精度碳-14测量的进一步研究以及更精确的树木年轮信息,无疑将为锡拉岛火山喷发提供更准确的日期。

scientific data. Further work on high-precision carbon-14 dating and more precise tree-ring information will, in time, undoubtedly provide a more accurate date for this important event.	
Volcanism at Thera did not cease after the Bronze Age eruption. The islands of Palaea Kameni and Nea Kameni were formed long afterward inside Thera's caldera (see Figure 3-1). Palaea Kameni appeared above sea level in 197 B.C.E. There was more activity in 19 C.E., and another island emerged from the caldera's depths in 726 C.E. Still another island, called Micro Kameni (small burnt island) arose in 1570. Between 1707 and 1711 it merged with the second island to form Nea Kameni. New land emerged, sank, and re-emerged during eruptive periods in the late nineteenth and early twentieth centuries. The locations of the eruption centers indicate re-activation of the Kameni fault, allowing younger magma to rise through that zone of weakness. Earthquakes rocked the archipelago during and after those minor eruptions. Thousands of people left Thera after	锡拉岛火山在青铜时代喷发后，其火山活动依旧持续。火山喷发很久之后，帕拉亚卡梅尼岛和新卡梅尼岛是在锡拉岛的火山口内形成（见图 3-1）。帕拉亚卡梅尼岛公元前 197 年露出海平面。公元 19 年有更多的火山活动，公元 726 年另一个岛屿从破火山口内出现。1570 年出现了小卡梅尼岛（意为“燃烧的小岛”）。1707 年至 1711 年间，小卡梅尼岛与公元 726 年出现的岛屿连合，形成了新卡梅尼岛。十九世纪末到二十世纪初，由于锡拉岛火山喷发，有新大陆出现，有大陆下沉，还有重新出现的大陆。火山喷发中心的位置表明卡梅尼断层再次被激活，新的岩浆能从薄弱地带向上升。这些小规模火山喷发还伴随着地震发生，火山喷发后，锡拉岛又经历了多次地震。1956 年，一场巨大地震造成数十人死亡，许多建筑受损，数千人离开了锡拉岛。青铜时代锡拉岛火山喷发后随之而来的是更大的动荡。

an especially severe quake in 1956, when scores were killed and many buildings were damaged. Much greater turmoil must have followed the Bronze Age catastrophe.	
Ships cannot anchor within Thera's caldera today because no ship carries enough cable to reach the bottom. Instead, when ships call at the island's main town, Phira, they tie up to mooring buoys anchored by enormously long chains. Cargo and passengers are ferried ashore in small boats. Until recently, to reach Phira, with its whitewashed buildings perched atop the caldera wall more than a thousand feet above the sea, one had to climb, by foot or on mule-back, more than 500 steps in a ramp that zigzags up the cliff. Today, however, cable cars whisk people to the top in minutes.	如今, 船只无法在锡拉岛的火山口内抛锚, 因为没有船只有足够长的缆绳到达其底部。相反, 船只要想停靠岛上的主要城镇费拉 (Phira), 船员会系上由超长链条固定的系泊浮筒, 然后用小船把货物和乘客运送上岸。满是白色建筑的菲拉镇坐落在海拔一千多英尺的火山口壁上。直到最近, 人们到达那里必须步行或骑骡子, 在蜿蜒曲折的悬崖斜坡上爬 500 多级。
The view westward from Phira, looking out over the blue water in the caldera toward Nea Kameni and Therasia, is magnificent. Eastward, one looks down the gently sloping side of the old volcano, a mountain that one has literally climbed from the	在费拉镇向西眺望, 人们可以俯瞰朝着新卡梅尼岛和锡拉岛西亚岛方向的火山口, 海水蔚蓝, 景色壮丽。向东眺望, 人们可以俯瞰这座古老火山平缓倾斜的一侧, 这座山实际上是从破火山口里出现的。在东岸和破火山口边之间的地带, 风景宜人, 有绿

inside. Between the eastern shore and the rim of the caldera the landscape is a pleasant one of green vineyards and fields of tomato plants, barley, and beans, as well as scattered villages and a few roads. The volcanic soil is fertile, and crops grow well despite a dry climate. Water from winter rains is stored in cisterns, and in summer fresh water is brought to the island weekly by ship.	色的葡萄园，种植着番茄、大麦和豆类的土地，还有零星的村庄和几条小路。尽管气候干燥，但火山土壤肥沃，农作物长势极好。冬季的雨水储存在蓄水池中，在夏季每周用船将淡水运到岛上。
Thera is a favorite stop for cruise ships in the eastern Mediterranean. In addition to tourism, the island has one industry -- the quarrying of pumice and volcanic ash. The largest quarry is just south of Phira, at the top of the cliff, where deposits from the Bronze Age eruption are about 40 meters thick. The powdery material is loaded into ships and taken to mainland Greece. There, in Athens, it is used in making a high-quality hydraulic cement, which sets under water. It was ash and pumice from Thera that went into the construction of the locks in the Suez Canal, which opened in 1869.	锡拉岛是地中海东部地区最热门的停靠站。除了旅游业，锡拉岛还有一个产业——浮石和火山灰的开采。岛上最大的采石场在费拉镇南部，青铜时代火山喷发的沉积物厚度约为 40 米。人们把这些材料装到船上，运往希腊大陆。在雅典，它们被用于制造高质量的水硬化水泥，这种水泥在水下也可以凝固。1869 年开通的苏伊士运河船闸就是用锡拉岛的火山灰和浮石建设而成。
The basal layer of pumice in the Phira quarry rests on brown, loamy	3500 多年前的青铜时代，火山喷发掩埋了锡拉岛，所以费拉采石场

soil -- the surface of the ground during the Bronze Age more than 3,500 years ago, when the volcano exploded and buried the island. Outlines of walls can be seen where the pumice has been removed in some places, and fragments of Minoan pottery have been found imbedded in the soil. The pottery fragments support an assertion by the historian Herodotus that King Minos of Crete colonized the Cycladic islands. Thucydides, another Greek historian, considered Minos' colonization of the Cyclades to be the beginning of Greek history.	的浮岩基底层下面是棕色的沃土。一些地方浮石清除后,可以看到墙壁轮廓,人们在土壤中发现了米诺斯时期陶器的碎片。这些陶器碎片证实了历史学家希罗多德的言论:克里特国王米诺斯曾殖民统治了在基克拉泽斯群岛。另一位希腊历史学家修昔底德(Thucydides)认为米诺斯对基克拉泽斯的殖民化是希腊历史的开端。
Thera apparently was quite well populated at that time. Several Bronze Age sites have been uncovered in the ash and pumice quarries. Most have been interpreted as small towns or farms -- country houses with walled-in animal pens. The first archaeological excavations were carried out on Thera and Therasia in the late 1800s. They revealed that there had been a prosperous Minoan colony on the islands, but little further archaeological work was done until 1967.	很显然,当时锡拉岛人口众多。人们在火山灰和浮岩采石场中发现了多个青铜时代的遗址。大多数是小镇或农场(指带有动物圈舍的乡间房屋)。第一次考古发掘是19世纪末在锡拉岛和锡拉西亚岛进行的。专家称,岛上曾有十分繁荣的米诺斯殖民文化。1967年进一步开展考古工作。

It was in that year that a Greek archaeologist named Spyridon Marinatos, excavating near the town of Akrotiri in southern Thera, discovered Bronze Age ruins of what has proved to be a city of considerable size -- perhaps larger than Pompeii in Italy. Like the ruins of Pompeii, the ruins of ancient Akrotiri consist of paved streets and the floors and walls of houses, some of them four stories high. Some of the walls, as in Pompeii, boast well-preserved frescoes and paintings. Many artifacts, largely Minoan in style, indicate close commercial contact with Minoan Crete.	1967 年，希腊考古学家斯皮里登·马里纳托斯(Spyridon Marinatos)在锡拉岛南部的阿克罗蒂里镇(Akrotiri)附近挖掘时，发现了青铜时代的遗址，这是一座规模相当大的城市，可能大过意大利的庞贝城。与庞贝遗址一样，阿克罗蒂里遗址有铺好的街道、房屋的地板和墙壁，其中一些房屋有四层楼高。一些墙壁上存有完好的壁画和绘画。遗址中许多文物大多是米诺斯风格，说明阿克罗蒂里与克里特米诺斯人有密切的贸易往来。
The Cretan Bronze Age began sometime around 3400 B.C.E., when artisans learned to mix copper with tin to make bronze implements and weapons. From Crete's then-extensive forests, Cretans obtained wood for the construction of ships. Excellent sailors, they traveled and traded throughout the eastern Mediterranean, soon becoming the dominant economic power in the region and establishing a hegemony over the	青铜时代克里特文明始于公元前 3400 年左右，当时的工匠已学会混合铜与锡制造青铜工具和武器。当时岛上有广阔的森林，克里特人取材造船。优秀的水手家传在地中海东部地区开展贸易，很快成为该地区的经济主导力量，也在基克拉泽斯群岛和其他岛屿建立霸权。此外，克里特人与埃及和希腊有大量贸易往来，甚至在希腊大陆建立了殖民地。事实上，克里特在政治上并不是一个有侵略性的国家，其强大程度足以征服雅

Cyclades and most other islands as well. Moreover, they traded extensively with Egypt and Greece, even establishing colonies on the Greek mainland. Minoan Crete, in fact, though apparently not a politically aggressive nation, was powerful enough to subjugate Athens and exact tribute from the Greeks for many years. The ending of that period of Greek humiliation is attributed to Theseus, the mythological hero of Athens, and is discussed later in this chapter.	典，雅典向克里特进贡多年。雅典神话英雄忒修斯结束了希腊这段屈辱历史，本章稍后将讲述这个故事。
By about 2000 B.C.E., Cretan kings were living in elaborate palaces, mostly on the eastern half of the island. The greatest of the palaces was at Knossos, near present-day Iráklion. The ruins of the palace were discovered in 1895 by British archaeologist Arthur Evans. Because of similarities between the ruins and descriptions in Greek myths, Evans was able to identify the palace as the home of the mythical King Minos, after whom he named the Minoan civilization.	到公元前 2000 年左右，克里特国王住在精致的宫殿里，宫殿大多位于岛的东半部。其中最宏伟的宫殿是克诺索斯王宫（Knossos），靠近现在的伊拉克利翁（Iráklion）。1895 年，英国考古学家阿瑟·埃文斯（Arthur Evans）发现了这座宫殿遗址。该遗址与希腊神话中的描述相似，埃文斯认定这座宫殿就是神话中米诺斯国王的住所，所以他以国王的名字命名米诺斯文明。
The Minoan culture ended	青铜时代晚期，米诺斯文明陨落

sometime during the late Bronze Age. Palaces were destroyed throughout eastern and central Crete, agriculture came to a halt, and commerce ceased. Crete became depopulated, as Herodotus reported. People migrated westward from the eastern population centers, and many are believed to have emigrated to Greece or northern Africa. There are no written records to tell us what happened, but the diaspora put an end to Minoan domination of the eastern Mediterranean world.	了。克里特东部和中部的宫殿被毁，一切农业、商业活动都停止。正如希罗多德所言，克里特人数量减少。他们从东部的人口中心向西迁移，大多移居到了希腊或北非。没有文字记录告诉我们发生了什么，但人口迁徙结束了米诺斯人对东地中海世界的统治。
It was Spyridon Marinatos, the Greek archaeologist, who first proposed that the demise of Minoan civilization was related to the Bronze Age eruption of Thera. He set forth his theory in a now-classic article published in 1939 in the British periodical <i>Antiquity</i>. Marinatos suggested that earthquakes associated with the eruption had damaged Minoan sites in the interior of Crete and that tsunamis, caused by the collapse of the caldera, had devastated coastal locations, not only in Crete but also throughout the eastern	希腊考古学家斯皮里登·马里纳托斯（Spyridon Marinatos）首次提出米诺斯文明的消亡与青铜时代锡拉岛的火山喷发有关。1939年，他在英国《古物》杂志上发表了一篇文章，这篇文章现已奉为经典。文章中马里纳托斯表示，火山喷发引发的地震破坏了克里特岛内陆的米诺斯遗址，破火山口坍塌引发的海啸摧毁了克里特岛和整个地中海东部的沿海地区。为了证明自己的观点，马里纳托斯列举了锡拉岛火山喷发与1883年印尼喀拉喀托火山喷发的相似之处。

Mediterranean. In support of his theory, he cited similarities to the destruction caused by the 1883 eruption of Krakatau in Indonesia.	
Earthquakes related to volcanic eruptions generally have relatively low magnitudes, so their effects are not widespread. To cause destruction on Crete, Marinatos's quakes would have to have been of tectonic origin, caused not by volcanism but by the release of strain along major faults. The earlier quakes -- those that preceded the Bronze Age eruption -- did affect all of Crete. Damage apparently was concentrated in the eastern part of the island, where archaeologists have uncovered the ruins of many palaces and lesser buildings. Only the palace at Knossos survived, though it was badly damaged.	火山喷发引发的地震通常震级相对较低, 因此其造成的影响并不广泛。马里纳托斯所说的地震必须是构造起源, 不是由火山活动引起的, 而是由主要断层沿线释放的应变引发。早期地震, 比如锡拉火山在青铜时代喷发之前的那些震动确实也影响了克里特岛全境, 但破坏主要集中在该岛东部, 考古学家在那里发现了许多宫殿和较小建筑遗址。尽管克诺索斯王宫也遭到严重破坏, 但只有它幸存下来。
Many authorities have agreed with Marinatos, however, that the abrupt collapse of Thera's Bronze Age caldera did cause tsunamis. They could have been caused, too, by voluminous pyroclastic flows entering the sea from Thera. In either case, the waves would have traveled rapidly to	然而, 有很多专家认同马里纳托斯的观点, 即锡拉岛的破火山口在青铜时代突然坍塌引发海啸, 当然海啸也可能是由于锡拉岛火山喷发后大量的火山碎屑进入大海引发的。无论哪种情况, 海浪快速席卷了锡拉岛附近的岛屿和大陆海岸。海浪的高度足以摧毁克里特岛、希腊海岸、埃及尼

nearby islands and continental shores. They would have been high enough to cause great destruction along the shores of Crete and Greece and even in the low-lying delta of the Nile in Egypt, where they would have penetrated far inland.	罗河的低洼三角洲，并由此深入内陆。
Recent studies have shown that some of the Bronze Age tsunami waves that reached Crete were more than 9 meters high. The coasts of present-day Turkey and the Greek mainland were battered by waves almost as high. Such waves would have destroyed harbor facilities and any vessels in the harbors, just as tsunamis created by the collapse of Krakatau in 1883 destroyed harbors along the coasts of western Java and eastern Sumatra. For the Minoan empire, whose power resided in its commercial fleet, such damage would have been catastrophic. Even vessels at sea, which would not have been damaged as the waves passed beneath them, might well have been battered by strong winds and become stranded in huge fields of floating pumice. Seagoing vessels in Minoan times	最近的研究表明，青铜时代到达克里特岛的一些海啸波的高度超过9米。如今的土耳其和希腊大陆海岸也经历过同样高的海浪。这么高的海浪足以摧毁任何港口设施和港内的船只，就像1883年喀拉喀托火山坍塌引发的海啸摧毁了爪哇西部和苏门答腊东部海岸的港口一样。对于米诺斯帝国来说，它的强大依靠其商业舰队，这场海啸无疑是灾难性的。即使航行在海上的船只，尽管海浪从其下面经过，它们不会受损，但仍会被强风袭击，搁浅在漂浮的浮石中。米诺斯时代的海船都是桨船，在这样的浮石地里划船会非常困难。

were oared galleys, and rowing would have been extremely difficult in such pumice fields.	
In addition to tsunamis, eastern Crete was subjected to ashfall from Thera's eruption. On the basis of the thicknesses of ash in drill cores collected from the sea bottom off Crete, it is believed that a volcanic cloud drifted to the east and south-east and deposited at least 10 centimeters of ash on eastern Crete, probably less in the central part of the island. Vegetation would have been seriously damaged, and crops probably ruined, because rain would have washed the loose ash from higher elevations onto lowland farms, clogging irrigation systems and acidifying the soil. The resulting disruption of Cretan agriculture for several seasons would have led to famine and disease. Thus the ashfall was almost certainly the main cause of the depopulation of eastern Crete.	除了海啸，克里特岛东部还遭受了火山灰的破坏。根据从克里特岛附近海底收集的岩芯中的火山灰厚度来看，人们认为火山云向东部和东南漂移，在克里特岛东部沉积了至少10厘米的火山灰，而中部的火山灰会少一点。岛上的植被严重破坏，此外，雨水将疏松的火山灰从高的处冲到低处的农场，堵塞了灌溉系统，又使土壤酸化，所以农作物也受到了严重影响。克里特岛农业遭受数年破坏，饿殍遍野，疾病横行。因此，火山灰几乎可以肯定是克里特岛东部人口锐减的主要原因。
Still another factor -- fire -- was involved in the destruction of Cretan buildings. Blackened stones and layers of ashes leave no doubt that fire swept	人口减少的另一个因素是火灾导致了克里特岛上建筑物受损。发黑的石头和层层灰烬无疑说明了大火曾席卷几乎所有宫殿，但火灾的原因

through virtually all the palaces, but the cause of the fires remains unclear. An early assumption that they were started by Thera's volcanism has been discounted because ash from the eruption, after being wafted 110 kilometers to Crete, would have cooled below any required kindling temperature. Yet paleomagnetic evidence from pottery and baked clay in walls and floors, fired during the destruction, shows that the ashfall and the fires were virtually contemporaneous.	尚不清楚。早期认为大火是由锡拉岛火山活动引起，但这种说法已被否定，因为火山喷发产生的火山灰在被吹到 110 千米外的克里特岛后，会冷却到任何物质所需的燃点以下。然而，利用古地磁法对这场火灾中受损的墙壁和地板上的陶器和烤粘土的研究表明，火山灰和火灾几乎是同一时间的。
In the past it has been thought that the fires started when earthquakes accompanying the eruption overturned olive-oil lamps, which would have been burning because of darkness caused by the ash cloud. Eventually the flames would have reached storerooms where supplies of oil were kept in large earthenware jars, which probably would have been cracked or overturned by the quakes, resulting in a general conflagration. It is now believed, however, that the larger earthquakes preceded the eruption, so there should be another explanation.	先前，人们认为因为火山灰云遮住阳光，周围一片黑暗，于是当时的人使用橄榄油灯照明，而火山喷发引发的地震震翻了橄榄油灯，从而引发火灾。最终，火势蔓延到储藏室，那里的大陶罐中储存着燃油，陶罐可能被震裂或掀翻，从而导致一场大火。然而现在，人们认为在火山喷发之前，就发生了更大的地震，所以还有另一种解释。

Perhaps there is. The eruption of Krakatau in 1883 created atmospheric percussion waves, or shock waves, that broke windows and cracked walls as far as 150 kilometers away. The distance from Thera to Crete is considerably less, and the Bronze Age eruption was more powerful. It is therefore quite possible that atmospheric shock waves, moving uninterrupted over the sea, overturned oil lamps and started fires when they slammed into Cretan buildings during the evening.	当时的情况或许是这样：如同 1883 年的喀拉喀托火山喷发时产生的大气冲击波，震碎了 150 千米外的窗户和墙壁。从锡拉岛到克里特岛的距离要小得多，而且青铜时代的这次喷发威力更大。所以，很有可能是火山喷发产生的大气冲击波穿越海洋，在当晚对克里特岛的建筑物造成强烈冲击，掀翻了油灯并引发火灾。
The destruction of Crete's palaces, the centers of power on the island, surely must have led to instability, social chaos, even anarchy. Many people fled the island. In Egypt's Nile Delta region between 1650 and 1520 B.C.E., there was a royal house of minor kings referred to as the Fourteenth Dynasty. They may well have been Minoan nobility or royalty who had fled from Crete.	岛上的权力中心——国王的宫殿受损，肯定导致了政治混乱、社会动荡，甚至无政府状态。许多人远走他乡。公元前 1650 年至 1520 年间，在埃及尼罗河三角洲地区，有一个由一些势力较小的国王组成的王室，被称为“第十四王朝”。他们很可能是从克里特岛逃离的米诺斯贵族或皇室成员。
Before the Bronze Age catastrophe, the culture of Crete was the nexus of Mediterranean civilization. To quote Homer, in the	在青铜时代这场灾难发生之前，克里特岛文明是地中海文明的纽带。如荷马在《奥德赛》中的话：“在酒色深沉的大海，有片名为克里特岛

Odyssey, “There is a land called Crete, in the midst of the wine-dark sea, a fair, rich land, begirt with water, and therein are many men past counting, and ninety cities.” In his acclaimed book <i>The Life of Greece</i>, Will Durant wrote	的土地，它四面环海，美丽富饶，哺育了众多人口，坐拥 90 座城市。” 威尔·杜兰特（Will Durant）在其著作《希腊的生活》中写道：
When Homer sang these lines, perhaps in the ninth century before our era, Greece had almost forgotten, though the poet had not, that the island whose wealth seemed to him even then so great had once been wealthier still, that it had held sway with a powerful fleet over most of the Aegean and part of mainland Greece; and that it had developed, a thousand years before the siege of Troy, one of the most artistic civilizations in history.	当荷马吟唱这些诗句时，也许是在公元前 9 世纪，尽管世人都已遗忘，但荷马没有忘记，在他看来，这片岛屿在那时更富有，它强大的舰队控制了爱琴海的大部分地区和希腊大陆的一部分；在特洛伊城被围困的一千年前，它已经发展成为历史上最具艺术性的文明之一。
The rediscovery of that lost civilization is one of the major achievements of modern archaeology. Here was an island twenty times larger than the largest of the Cyclades, pleasant in climate, varied in the products of its fields and once richly wooded hills, and strategically placed, for trade or war, between Phoenicia	重新发现那个失去的文明是现代考古学的主要成就之一。这是一个比基克拉泽斯群岛还要大 20 倍的岛屿，岛上气候宜人，物产丰富，山林茂密。它地处腓尼基和意大利之间，在埃及和希腊之间，无论贸易还是战争，都颇具战略优势。亚里士多德曾指出克里特岛的条件优越以及“它是如何使米诺斯人掌控爱琴海帝国。”

and Italy, between Egypt and Greece. Aristotle had pointed out how excellent this situation was, and how “it had enabled Minos to acquire the empire of the Aegean.” But the story of Minos . . . was rejected as legend by modern scholars.	但米诺斯人的故事……在现代学者眼中，不过是一个传说。
Then, in 1895, Arthur Evans began his archaeological excavations at Knossos. Within the ruins he found clay tablets, hardened and preserved by the fires that had destroyed the palace. Writings on the tablets combined hieroglyphic pictographs and an ancient, indecipherable script to which Evans gave the name Linear A. Evans also classified shards of pottery and other relics from Knossos and compared them with similar objects from ancient Mesopotamia and Egypt. On the basis of accepted chronologies for the Mesopotamian and Egyptian materials, he was able to divide the post-Neolithic culture of Crete into Early, Middle, and Late Minoan periods. Evans’ s work at Knossos led archaeologists to reassess the historical value of the old myths.	1895 年，阿瑟·埃文斯在克诺索斯开始考古发掘。在废墟中，他发现了泥板，大火摧毁了宫殿，使这些泥板硬化并得以保存。泥板上的文字结合了象形文字和一种古老的、难以辨认的文字，埃文斯将其命名为“线形文字 A”。埃文斯还对克诺索斯遗址的陶器碎片和其他遗迹进行了分类，并将其与古美索不达米亚和埃及的类似物品进行了比较。根据美索不达米亚和埃及材料的通用年表，埃文斯将克里特岛的后新石器时代文明分为早、中、晚期米诺斯时期。埃文斯在克诺索斯遗址的考古工作使考古学家重新认定了古老神话的历史价值。
The palace at Knossos, a maze of	克诺索斯宫殿是一个由许多房

many rooms and intricate corridors, very likely gave rise to the myths of the labyrinth, the Minotaur, and Theseus, which are discussed later in this chapter. Parts of the huge edifice rose to three or four stories. Knossos was the grandest of the ancient Cretan palaces, but it was only one of many. Their ruins, along with the remains of ordinary houses, have been unearthed throughout eastern and central Crete. Many of the houses had two or three stories, wide windows, courtyards, and even toilets that could be flushed into sewer systems.	间和复杂走廊组成的迷宫，有关迷宫、弥诺陶洛斯和忒修斯的神话很有可能由此而来，这将在本章稍后讨论。这座巨大的遗址的某些部分有三四层高。克诺索斯是古代克里特岛宫殿中最宏伟的，但它只是众多宫殿中的之一。除了这些供电，克里特岛东部和中部还出土了一些普通房屋。许多房子有两三层楼，窗户敞亮，带有庭院，甚至还有带下水道厕所。
Statuary, multihued pottery, and wall frescoes have yielded a great deal of information about Minoan life. The frescoes depict bucolic landscapes and both men and women with various animals, most notably bulls, which were considered sacred. Objects found in the ruins testify to exquisite craftsmanship not only in pottery but also in the fabricating of bronze basins, pitchers, and even daggers and swords, some inlaid with gold, silver, ivory, and gemstones.	雕像、彩色陶器和壁画蕴含着大量有关米诺斯人生活的信息。壁画上描绘了田园风光，男人和女人以及各种动物，最著名的是公牛，它们是神圣的象征。在废墟中发现的物品证实了米诺斯人精湛的制造工艺，不仅擅长制陶，还擅长制造青铜器和水壶，甚至还有匕首和剑，其中一些镶嵌着金、银、象牙和宝石。
There is archaeological evidence	考古表明，古老的克里特岛曾多

that the palaces of ancient Crete were damaged several times by earthquakes. Most of the palaces were rebuilt each time. **In the early Late Minoan period, however, presumably at the time of the severe pre- eruption earthquakes, the destruction was so complete that no palaces were rebuilt -- except Knossos, which seems to have suffered less damage.** Even so, there were major cultural and social changes at Knossos. Pottery designs became less refined. And Linear A script gave way to a new system of writing. It was the same syllabic script as Linear A but was used for a different language, much as letters of our alphabet are used in several languages. Evans named it Linear B. In Crete it is known only at Knossos, but it has been found in ruins of a later date on the Greek mainland, in Mycenae, an ancient city in Peloponnesus. Just as Linear A has remained undeciphered, Linear B remained a mystery for over half a century. Finally, in 1952, a British scholar named Michael Ventris discovered that Linear B was an

次遭地震破坏。每次毁坏，大多数宫殿都要重建。然而，在米诺斯文明晚期的早些年间，大约是在锡拉火山喷发前，也就是发生大地震时，这次地震的破坏非常之大，几乎没有宫殿能够重建，克诺索斯是个例外——它看上去遭受的破坏较小。即便如此，克诺索斯还是发生了重大的社会文化变革。陶器的设计变得不那么精致了。线形文字 A 的字母被一种新的书写系统所取代。它与线形文字 A 的音节相同，但用于另一种语言，这种就像字母表也用于其他几种语言中一样。埃文斯将其命名为“线形文字 B”。在克里特岛，只在克诺索斯发现了这种文字，但后来在希腊大陆——伯罗奔尼撒的古城迈锡尼（Mycenae）——也发现了这种文字。正如“线形文字 A”尚未被破解一样，半个多世纪以来，线形文字 B 也一直是个谜。终于在 1952 年，一位名叫迈克尔·文特里斯（Michael Ventris）的英国学者破解了线形文字 B，发现它是希腊语的一种古老形式。

archaic form of Greek.	
The implications of Ventris's discovery were of singular importance. The appearance of Linear B meant that not Minoans but Mycenaean Greeks had been in charge at Knossos at that time. With the end of Minoan dominance in the Aegean, Mycenaeans from Greece apparently had been able to invade Crete and occupy the palace at Knossos. Although many Minoans migrated into western Crete and even emigrated to Greece or northern Africa to escape the devastation wrought by earthquakes and the eruption of Thera, some must have remained at Knossos. Palace scribes who had been employed by Minoan kings to keep records of stores of grain, oil, and other essential materials at Knossos apparently modified their own language to accommodate the Greek words of their new rulers, who had no writing of their own. The Minoans thereby created Linear B, which Mycenaeans and emigrating Minoans took to Greece, giving that country its first written language.	文特里斯的发现具有极其重要的意义。线形文字 B 的出现意味着当时统治克诺索斯的不是米诺斯人，而是迈锡尼人。随着米诺斯人在爱琴海的统治地位结束，来自希腊的迈锡尼人入侵了克里特岛并占领克诺索斯宫殿。尽管许多米诺斯人移民到克里特岛西部，甚至移民到希腊或北非，以躲避地震和锡拉岛火山爆发造成的破坏，但一定有米诺斯人留在了克诺索斯。比如，米诺斯国王的宫廷抄写员记录了克诺索斯的粮食、燃油和其他基本物质的数量，但他们显然修改了自己的语言来适应新统治者，这就是线形文字 B。由于古希腊当时还没有文字，迈锡尼人和移居的米诺斯人将这种文字带到希腊，成为该国第一种书面语。
Mycenaean culture in Greece	古希腊的迈锡尼文明不仅得益

benefited not only from the script imported from Crete but also from the creative talents of Cretan émigrés. In all probability it was the stimulating influence of the Minoans that led to a subsequent expansion of Mycenaean culture throughout the eastern Mediterranean.	于从克里特岛传入的字母,还得益于克里特岛移民的创造天赋。很有可能是在米诺斯人的影响下,迈锡尼文明走向繁荣,随后在整个地中海东部地区不断扩张。
There can be little doubt that a number of Greek myths have their roots in the Bronze Age eruption of Thera. Athens at that time was a Mycenaean city, and in Greek mythology it was Theseus, an Athenian, who slew the Minotaur on Crete and freed Athens (hence Mycenae) from domination by Minoan Crete -- surely an allusion to the decline of Minoan culture and the concomitant rise of Athens and Mycenae.	毫无疑问,许多希腊神话都从青铜时代锡拉岛火山爆发获取灵感。当时的雅典是一座拥有迈锡尼文明的城市,在希腊神话中,是雅典人忒修斯在克里特岛上杀死了弥诺陶洛斯,并将雅典(也就是迈锡尼)从克里特岛米诺斯人的统治下解放出来——这恰恰暗示了米诺斯文明的衰落与雅典和迈锡尼文明的崛起。
According to the myth, the sea god Poseidon gave a magnificent bull to King Minos of Crete. The king's wife, Pasiphae, lusted after the bull. With the connivance of Daedalus, a Greek craftsman in Minos' service, Pasiphae seduced the animal. The result of their union was the Minotaur,	希腊神话中,海神波塞冬送给克里特岛国王米诺斯一头华丽的公牛。国王的妻子帕西菲(Pasiphae)对公牛产生了欲望。为米诺斯国外服务的希腊工匠代达罗斯(Daedalus)为帕西菲打造了一头以假乱真的木质母牛,帕西菲躲进木牛之内与公牛交配,生下弥诺陶洛斯,一个半人半牛

a fierce creature that was half man and half bull, which Minos imprisoned in a maze, or labyrinth (the palace at Knossos), constructed at his command by Daedalus.	的凶猛怪物。国王米诺斯命令达代罗斯建造一个迷宫，即克诺索斯宫，将弥诺陶洛斯囚禁其中。
Minos imposed his authority on other nations, including Athens (the Minoan domination of the eastern Mediterranean), but his son Androgeus was killed by the Athenians. In revenge, Minos made Athens pay a yearly tribute of seven young men and seven maidens, who were sent to Crete and imprisoned in the labyrinth as prey for the Minotaur. One year Theseus, son of the Athenian King Aegeus (after whom the Aegean Sea is named), volunteered to go to Crete as one of the sacrificial youths. There he killed the Minotaur, freed the surviving Athenian hostages, and led them out of the labyrinth, ending the political and economic domination of Athens by Crete. Could this myth refer to the demise of Minoan civilization as a result of Thera' s eruption?	国王米诺斯还统治着其他国家，包括雅典，这体现了米诺斯对地中海东部的统治，但是米诺斯的儿子安德罗格洛斯（Androgeus）被雅典人杀害。米诺斯对其展开报复，让雅典每年进贡七对童男童女，送到克里特岛，囚禁在迷宫中，作为弥诺陶洛斯的猎物。有一年，雅典国王埃勾斯（Aegeus，爱琴海就是以他的名字命名的）的儿子忒修斯自愿作为祭品前往克里特岛。他杀死了牛头怪弥诺陶洛斯，释放了幸存的雅典人质，把他们带出迷宫，结束了克里特对雅典的政治和经济统治。这个神话故事是不是参考了锡拉岛火山喷发导致米诺斯文明消亡呢？
Mythical traditions of many cultures, from the Gilgamesh epic of ancient Babylon to the story of Noah	从古巴比伦史诗《吉尔伽美什史诗》到《圣经》中诺亚方舟的故事，许多神话传统都有众神降下洪水惩

in the Bible, refer to floods imposed by gods as punishment for human wickedness. The Greeks have the mythology of Deucalion's flood, which presumably occurred about the time of Thera's eruption and may reflect ancestral memories of the inundation of coastal embayments by tsunamis or heavy rainfall related to atmospheric pollution caused by the eruption. In the myth, Zeus decided to punish the wickedness of the time by destroying the world with a flood. The god Prometheus learned of Zeus' plan and warned Deucalion, who was Prometheus' son. Like Noah, Deucalion built an ark. When the waters rose, Deucalion and his wife Pyrrha took to the ark and survived. The Greeks, or Hellenes, were said to be descended from their son Hellen.	罚人类的罪恶。希腊人也有丢卡利翁洪水的神话,这场洪水大约发生在锡拉岛火山喷发之时,反映出先辈们对海啸淹没沿海海湾或是火山爆发造成大气污染,产生强降雨的记忆。在神话中,宙斯决定用洪水摧毁世界惩罚人类的罪恶。普罗米修斯得知了宙斯的计划,把消息告诉儿子丢卡利翁。和诺亚一样,丢卡利翁建造了一只方舟。当水位上升时,丢卡里翁和他的妻子皮拉(Pyrrha)登上方舟活了下来。希腊人据说是丢卡里翁和皮拉的儿子赫楞(Hellen)的后代。
The myth of Jason and the Argonauts may well reflect Bronze Age events in early Greek history. After the Argonauts secured the golden fleece from Colchis, at the eastern extremity of the Black Sea, and were returning to Greece, they sailed through Minoan waters in the	伊阿宋(Jason)和阿尔戈英雄的神话很可能也反映了希腊早期历史上青铜时代的事件。阿尔戈英雄们从黑海东端的科尔基斯(Colchis)获得金羊毛返回希腊,穿过克里特岛和锡拉岛附近的米诺斯水域。在前往克里特岛的途中,该岛的守护者——青铜巨人塔罗斯(Talos)阻止他们上

vicinity of Crete and Thera. Headed for Crete, they were prevented from landing by that island's guardian, a giant named Talos, made of bronze. He stood on a mountaintop and threw rocks at the seafarers. Hephaestus, the god of fire and metalworking, had fabricated Talos for Minos to keep intruders away from his kingdom. Talos would make himself red hot and embrace the intruders, killing them. Being made of bronze, he was invulnerable except for a place near one ankle, which was protected only by a thin membrane. The Argonauts fled from Talos' barrage of rocks, but Medea, a sorceress from Colchis who had married Jason and accompanied the Argonauts, cast a spell upon the giant to dim his vision. As Talos was preparing to hurl another boulder he stumbled and injured his unprotected ankle, and his vital fluids leaked away. He collapsed, fell from his mountaintop, and died.	岸。塔罗斯站在山顶上，向英雄们扔石头。赫菲斯托斯（Hephaestus），古希腊神话中的火神和锻造之神，为防止敌人入侵米诺斯的王国，才为他锻造了塔罗斯。塔罗斯会把自己烧成通红，将入侵者一个个抱住烫死。塔罗斯全身青铜铸就，无坚不摧，唯有靠近脚踝一处薄弱，此处只有一层薄皮。阿尔戈英雄们本想逃离塔罗斯的巨石攻击，但伊阿宋的妻子美狄亚（Medea），这位来自科尔基斯的女巫拦住他们，她对塔罗斯施法，使他的视力变弱。当塔罗斯准备投掷巨石时，就摔倒了，划破了脚踝上的薄皮，体内神汁流出，塔罗斯轰然倒地，从山顶上掉了下来摔死了。
It is not unlikely that Talos is a mythical representation of the island of Thera, which can be said to guard the northern approaches to Crete.	塔罗斯很可能隐喻的是锡拉岛，锡拉岛守卫着通往克里特岛的北部通道。事实上，塔罗斯也被称为“Circinus”，意为“圆圈”，这正

Talos, in fact, was also known as Circinus (the circle), an apt description of the presumed shape of Thera in antiquity. The giant's invulnerable bronze physique could represent the volcano itself, and the rocks he threw might well be volcanic bombs. His red-hot embrace could represent a lava flow, and the weak spot at his ankle, a volcanic vent. His collapse and death as his vital fluids (lava) oozed out of him would be analogous to an eruption.	是古代对锡拉岛形状的描述。这位巨人刀枪不入的青铜身体可能代表了火山本身，他投掷的巨石很可能是火山弹，他火热的拥抱可能是熔岩流，脚踝处的弱点则是火山口。当他体内神汁（熔岩）从他身上渗出时，他的轰然倒地和死亡可能就代表着火山爆发。
The Argonauts, after fleeing from Talos, sailed northward and were enveloped in a mysterious darkness. They escaped by appealing to Apollo, who guided them to the nearby island of Anáfi. The mythical darkness may refer to the dense gloom that must have been cast over the eastern Mediterranean by Thera's ash cloud.	阿尔戈英雄们逃离塔罗斯后，继续向北航行，被一片神秘的黑暗所笼罩。他们向阿波罗求情，阿波罗将他们带到附近的阿纳菲岛。这神秘的黑暗可能指的是笼罩在地中海东部上空的火山灰云。
Talos is supposed to have had a son named Leukos (the white one), who, according to the myth, drove away the king of Crete, destroyed many towns on the island, and killed the king's daughter, whose name was Kleisithera (key of Thera). The name	据说塔罗斯有一个儿子叫莱科斯 (Leukos, 意为白色)，莱科斯赶走了克里特岛的国王，摧毁了岛上的许多城镇，并杀死了国王的女儿克莱西瑟拉 (Kleisithera, 意为“锡拉岛的钥匙”)。“莱科斯”这个名字可能暗示了覆盖在克里特岛东部的白

Leukos probably refers to the white volcanic ash that covered eastern Crete and led to the diaspora of the Minoans.	色火山灰，导致米诺斯人口迁徙。
Stories in the Bible, too, according to some authorities, may be rooted in the eruption of Thera. Refugees from Crete -- called Caphtor in the Bible -- are known to have settled in northern Africa, including Egypt and what is now Tunisia, and along the coast of Palestine, where they became known as Philistines. The Book of Amos (9:5-7) makes reference to those migrations and appears to link them to volcanism and floods, which may have been caused by tsunamis. The following quotation hints at such natural disasters, which triggered migrations of large ethnic groups on a regional scale:	据权威人士的说法，一些圣经故事也可能源于锡拉岛火山喷发。在《圣经》中，来自克里特岛的难民被称为迦斐托（Caphtor），他们定居在北非，包括埃及、现在的突尼斯以及巴勒斯坦海岸一带，被称为“非利士人”（Philistines）。《阿摩司书》（9: 5-7）提到了这些人的迁徙，并与火山活动和海啸引发的洪水联系起来。以下引文暗示了这场灾难引发的民族大迁移：
And the Lord God of hosts is he that toucheth the land, and it shall melt, and all that dwell therein shall mourn: and it shall rise up wholly like a flood; and shall be drowned. . . .It is he . . . that calleth for the waters of the sea, and poureth them out upon the face of the earth. . . . Have not I	主万军之耶和华摸地，地就消化，凡住在地上的，都必悲哀。地必全然像尼罗河涨起，如同埃及河落下……那在天上建造楼阁，在地上安定穹苍，命海水浇在地上的，……我岂不是领以色列人出埃及地，领非利士人出迦斐托……

brought up Israel out of the land of Egypt? And the Philistines from Caphtor . . . ?	
Some authorities have suggested that the biblical plagues of Egypt, which preceded the Jewish Exodus, might have been related to the Bronze Age eruption of Thera. Biblical scholars, however, generally place the Exodus in the fifteenth century B.C.E., whereas the eruption of Thera, as we have seen, most likely occurred much earlier, in the seventeenth century. Both centuries contained periods of political instability in Egypt that could have led to the release or escape of Hebrew slaves.	有些权威认为,犹太人走出埃及之前,圣经中埃及发生的瘟疫可能与青铜时代锡拉岛火山喷发有关。然而,圣经学者通常认为《出埃及记》发生在公元前十五世纪,而锡拉岛火山喷发,如前文所说,很可能发生的更早,是在公元前十七世纪。这两个世纪埃及政权都不稳定,可能发生了希伯来奴隶被释放或逃跑的事件。
Among the plagues, as described in the Book of Exodus, were waters turning red, thunder and hail, and darkness. All these phenomena could well have been of volcanic origin, whether from Thera or from a later volcanic eruption. Another possible source of the plague stories might have been earlier Egyptian records of similar events. Just as there are similarities between the biblical account of Noah's flood and the earlier	正如《出埃及记》中所描述的那样,瘟疫降临时,河水变红、雷声大作、冰雹从天而降、黑暗来临。这些现象都很可能是由锡拉岛火山喷发或者后期的火山喷发引起的。瘟疫故事的另一个来源可能是埃及早期对类似事件的记录。正如圣经中对诺亚洪水的描述和希腊神话中的丢卡利翁洪水有颇多相似一样,圣经中的瘟疫也和更早发生在埃及的事件有相似之处。根据荷兰莱顿的“国家古物博物馆”中一幅莎草纸卷的记载:一

Greek myth of Deucalion's flood, there are similarities between the biblical plagues and accounts of events that befell Egypt much earlier. As related on a papyrus scroll now in the National Museum of Antiquities in Leiden, Holland, a scribe named Ipuwer tells of a cataclysmic period that befell Egypt in the eighteenth or nineteenth century B.C.E. Ipuwer wrote about plague throughout the land, blood everywhere, fire, ruin, unbearable noise, and darkness, many of his comments hinting at distant volcanism and paralleling the later accounts in Exodus.	位名为伊浦味 (Ipuwer) 的抄写员记载了公元前 18 或 19 世纪埃及所遇到的灾难, 他的许多记载都暗指了发生在远方的火山活动, 并与《出埃及记》中的描述相似。
Most indicative of a volcanic eruption during the Exodus, however, is the biblical account of the flight itself: "And the Lord went before them by day in a pillar of a cloud, to lead them the way; and by night in a pillar of fire, to give them light" (Exodus 13:21). The pillars of fire and cloud probably refer to volcanic eruption clouds from somewhere in the eastern Mediterranean area, but the source is unknown. Only Thera is known to have had a major eruption in that	《出埃及记》中火山喷发的最明显迹象是对逃跑过程的描述: “日间, 耶和华在云柱中领他们的路, 夜间, 在火柱中光照他们, 使他们日夜都可以行走” (《出埃及记》13: 21)。火柱和云柱可能指的是来自地中海东部处的火山喷发云, 但具体位置尚不明。在过去的两千年里, 只有锡拉岛在地中海东部地区发生过大爆发, 但在埃及不太可能看到它的大火。

region during the last two millennia, but it is unlikely that its fires could have been seen from Egypt.	
The mythical island continent of Atlantis, the object of so much speculation over the centuries, most likely has its origins, too, in the Bronze Age eruption of Thera. The Athenian philosopher Plato, about 350 B.C.E., wrote two dialogues, <i>Timaeus</i> and <i>Critias</i>, in which he described the mythical island. Plato's account is the basis of all subsequent writing and speculation about Atlantis. He heard the story from Critias, who had heard it from his grandfather, whose father, named Dropides, had heard it from Solon (630?-560? B.C.E.), the great sage and lawgiver of Athens. In about 600 B.C.E. Solon had visited Saïs in Lower Egypt, where, according to Plato, Egyptian priests told him about a great island empire that had existed 9,000 years before and had vanished beneath the sea. In the <i>Timaeus</i> dialogue, Plato quotes Critias as relating the following, as told to Solon by one of the priests:	神话般的岛屿大陆亚特兰蒂斯，几个世纪以来如此多的猜测对象，很可能在青铜时代锡拉火山爆发时也有它的原始点。约公元前 350 年，古希腊哲学家柏拉图写下两段对话录——《蒂迈欧篇》和《克里底亚篇》，其中他都描述了这个神话般的岛屿。后来所有关于亚特兰蒂斯的作品和猜测都是以柏拉图的叙述为基础。柏拉图是从克里底亚（Critias）那里听到这个故事，克里底亚又从祖父那里获知，而他祖父的父亲——德罗庇得斯（Dropides）又是从雅典先贤和立法者梭伦（公元前 630? -560? ）那里得知。大约在公元前 600 年，梭伦访问了埃及的赛易斯（Saïs），根据柏拉图的说法，埃及祭司告诉他在海底沉睡着一座 9000 年前的帝国。在与蒂迈欧的对话中，柏拉图引用了克里底亚的话，正如埃及祭司告诉梭伦的那样：

there was an island situated in front of the straits which by you are called the Pillars of Heracles. The island . . . was the way to other islands, and from these you might pass to the whole of the opposite continent. . . . Now in this island of Atlantis there was a great and wonderful empire which had rule over the whole island and several others, and over parts of the continent. . . . But . . . there occurred violent earthquakes and floods, and in a single day and night of misfortune . . . the island of Atlantis . . . disappeared in the depths of the sea.	在你们称作“海格力斯之柱”的海峡对面，曾有一座岛屿。这座岛……是通往其它的岛屿的必经之路，由此你可以穿越整个对岸大陆……在这个叫“亚特兰蒂斯”的岛上，曾有一个伟大而美妙的帝国，它统治着整个岛屿和其他几个小岛，以及整个希腊大陆的部分地区。……但是……强烈的地震和猛烈的洪水持续了一天一夜。亚特兰蒂斯岛……消失在大海的深处。
The priest described a beautiful and fertile plain in the center of the island, and in the center of the plain was a hill on which lived a maiden named Clito. The sea god Poseidon fell in love with Clito and married her “and fortified the hill where she had her abode by a fence of alternate rings of sea and land, . . . one within another.”⁵ There were two springs on the island, one cold and one warm (most likely from volcanic activity),	祭司说亚特兰蒂斯岛的中央是一片草木茂盛的平原，平原中央有一座小山，上面住着少女克莱托（Clito）。海神波塞冬爱上了克莱托，并娶了她，“她的住所就在山上，海神用海陆交替做成篱笆，加固小山。”[同上,1218.]岛上有两股泉水，一股是冷的，一股是热的（很可能是火山活动造成的），岛上有“各种粮食作物”。波塞冬和克莱托有五对孪生儿子，他们把岛屿分配给自己的孩子。大儿子阿特拉斯(Atlas)被指定为王，

and there was an “abundance of food plants of all kinds.” Poseidon and Clito had five pairs of twin sons and divided the island among them. The oldest, named Atlas, was made king over all the others, and the island was named Atlantis after him.	亚特兰蒂斯（Atlantis）就是以他的名字命名的。
Atlantis was a place of peace and prosperity. There were magnificent temples, palaces, and fountains, and bridges over the circular canals, all made of stone. “The stone, black, white, and red, they quarried beneath the . . . central islet and outer and inner rings.” Busy shipyards built great vessels called triremes, with three banks of oars, which were used in commerce with other lands. The Egyptian priest described that palace in the following passage, which could well be a description of the palace of Minos at Knossos: “This palace they originally built . . . in the dwelling place of the god . . . , and each monarch, as he inherited it in his turn, added beauties to its existing beauties . . . until they had made the residence a marvel for the size and splendor of its buildings.”	亚特兰蒂斯一片祥和，繁荣富足。这里有宏伟的庙宇、宫殿、喷泉，环形运河上还有桥梁，这些都是用石头建造的。“黑色、白色、红色的石头，……从中央小岛、外环和内环采集而得。”忙碌的造船厂建造了带有三排桨的大型船只，用于贸易往来。埃及祭司对这座宫殿的描述就像是克诺索斯宫殿：“这座宫殿最初建在……神之住处，……历代国王继位时，会锦上添花……这座宫殿的规模之宏大，构造之富丽引人惊叹。”

The time given by Plato for the demise of Atlantis, 9,000 years before Solon's visit to Saïs, or about 9600 B.C.E., must be wrong. No such advanced civilization could have existed on earth that long before the Bronze Age. Greek seismologist Angelos Galanopoulos has suggested that Plato's numbers are systematically off by a factor of ten.⁷ Galanopoulos theorizes that Solon, instead of being told the story of Atlantis, read about it himself in ancient papyrus rolls made available to him in Saïs, and that he confused the written symbol for 100 with that for 1,000. Therefore Solon's 9,000 years should be 900, and thus the date should be 1400 B.C.E. -- well within the Bronze Age. This date agrees quite well with the date suggested by archaeological studies, but it is two or three hundred years later than the date arrived at by scientific methods.	但是柏拉图给出的亚特兰蒂斯消失的时间是梭伦访问赛易斯前9000前,也就是公元前9600年左右。比青铜时代早那么久的时期,地球上不可能存在如此先进的文明。希腊地震学家安杰洛斯·加拉诺普洛斯(Angelos Galanopoulos)提出,柏拉图说的时间系统地偏离了10倍。[加拉诺普洛斯,培根,《亚特兰蒂斯》,133-34.]加拉诺普洛斯认为,并没有人告诉梭伦有关亚特兰蒂斯的故事,而是他访问赛易斯时在古莎草纸书卷上读到了这个故事,但他混淆了100与1000的书写。因此,梭伦所说的9000年应该是900年。这样的话,亚特兰蒂斯消失的时间应该是公元前1400年——正好是青铜时代。这一日期与考古研究提出的日期相对应,但比经科学手段检测出的日期晚了两三百年。
Plato's account implies that Atlantis was west of the Pillars of Heracles (or Hercules), which are traditionally assumed to border the Strait of Gibraltar. Thus Atlantis was	根据柏拉图的记载,亚特兰蒂斯位于“海格力斯之柱”以西,一般认为“海格力斯之柱”与直布罗陀海峡(Strait of Gibraltar)相邻,因此,亚特兰蒂斯长期以来被认为是在大西

long thought to have been in the Atlantic Ocean. The island was not named after the ocean, however -- rather, both were named after Atlas -- and literally hundreds of places around the world have been proposed over the years as the location of Atlantis.	洋上。但是该岛并不是以海洋命名，而是以阿特拉斯命名。多年来，亚特兰蒂斯所在何处已经有数百个说法。
In 1872 a French writer, Louis Figuier, suggested that Plato's Atlantis was the island of Santorini because parts of Santorini had obviously sunk into the sea. Indeed, on that archipelago today there are hot springs, as described by Plato, as well as black, red, and white volcanic rocks. And in 1885 a French archaeologist, Auguste Nicaise, proposed a correlation between the destruction of Atlantis and the Bronze Age eruption of Thera.	1872 年，法国作家路易斯·菲吉耶（Louis Figuier）提出柏拉图描述的亚特兰蒂斯是桑托林岛，因为该岛的一部分沉入大海。和柏拉图的描述一样，今天这个群岛上也有温泉，还有黑色、红色和白色的火山岩。1885 年，法国考古学家奥古斯特·尼凯斯（Auguste Nicaise）提出亚特兰蒂斯的毁灭与青铜时代锡拉岛火山喷发有关。
In 1909 the Irish scholar K. T. Frost, knowing about Evans's discoveries at Knossos and taking into account the extensive trade between Egypt and Minoan Crete, suggested that the Atlantis myth applied to Crete and the abrupt demise of Minoan civilization. To the Egyptians, Frost pointed out, the sudden cessation of	1909 年，爱尔兰学者 K·T·弗罗斯特（K. T. Frost）研究了埃文斯在克诺索斯的发现之后，又考虑到古埃及人和克里特岛米诺斯人之间有大量贸易往来，他提出亚特兰蒂斯神话与克里特岛和米诺斯文明的突然消亡有关。弗罗斯特指出，对于古埃及人来说，与克里特岛突然失去经济联系就好像这座岛消失在大海中。古

economic contact with Crete would seem as if that island had disappeared into the sea. No doubt the Egyptians had heard about the destruction of Santorini from Minoan sailors, and they may have confused the two islands. In fact, the proximity of Crete and Thera, along with the rest of the Cyclades, makes that area the only location that provides the main elements of the Atlantis myth -- an advanced civilization, an island empire, and a great natural catastrophe.	埃及人一定从米诺斯水手那里听说了桑托林岛被毁的消息，他们可能混淆了桑托林岛和克里特岛。事实上，克里特岛、锡拉岛和基克拉泽斯群岛的一部分岛屿距离很近，使这一地区成为亚特兰蒂斯神话唯一可能的发祥地——具备先进的文明，又是岛屿的帝国，同时又经历了巨大的自然灾害。
There can be little doubt that the story of Atlantis reflects Egyptian impressions of the highly evolved Minoan civilization that was based on Crete. And there can be little doubt that the Bronze Age eruption of Thera played a major role in the demise of that civilization, as reflected in ancient Egyptian texts. As we have seen, there seem to be ancestral memories of that eruption in several myths of ancient Greece and even, possibly, in certain events described in the Bible.	毫无疑问，亚特兰蒂斯的故事反映出古埃及人对克里特岛上高度发展的米诺斯文明的印象。正如古埃及文件记载的那样，青铜时代锡拉岛火山喷发导致了该文明的消亡。我们上文中所说的几个古希腊神话，圣经中描述的一些事件似乎都有关于那次喷发的祖先记忆。
The Bronze Age weakening of Minoan culture enabled the	青铜时代米诺斯文化的衰落是的迈锡尼人得以进入克里特岛，取代

Mycenaean Greeks to move into Crete, replacing the Minoan rulers at Knossos. Minoan émigrés from Crete infused their creativity and industry into the Mycenaean culture of Greece, thereby furthering Mycenaean expansion throughout the eastern Mediterranean area. And Minoan scribes at Knossos adapted their written language to accommodate the spoken language of their Greek conquerors, thereby developing the first, primitive form of written Greek.	了克诺索斯的米诺斯统治者。而来自克里特岛的米诺斯移民则将他们的创造力和制造工艺融入了古希腊的迈锡尼文化,从而扩大了迈锡尼在整个地中海东部地区的扩张。克诺索斯的米诺斯抄写员对他们自己的书面文字加以调整,以适应希腊统治者的口语,从而发展出最早的希腊语书写形式。
Thus the Bronze Age eruption of Thera and the resulting Minoan diaspora appear to have been major factors in the rise of Mycenaean Greece, the cultural ancestor of classical Greece. The written language of the Mycenaeans evolved into the Greek script of the poets and philosophers of Athens during its Golden Age. And the Golden Age of Athens gave rise to the values and philosophies that underlie the culture we call Western civilization today.	青铜时代锡拉岛火山喷发和由此导致的米诺斯人口迁徙似乎是古希腊文化的鼻祖——迈锡尼文明崛起的主要原因。在雅典的黄金时代,迈锡尼人的书面语催生出雅典时代那些诗人和哲学家的伟大文字。而雅典黄金时代的价值观和哲学观也正是我们今天所说的西方文明的基础。

注: 文中加黑部分为报告正文中所选取的译例。