

沉船寻宝

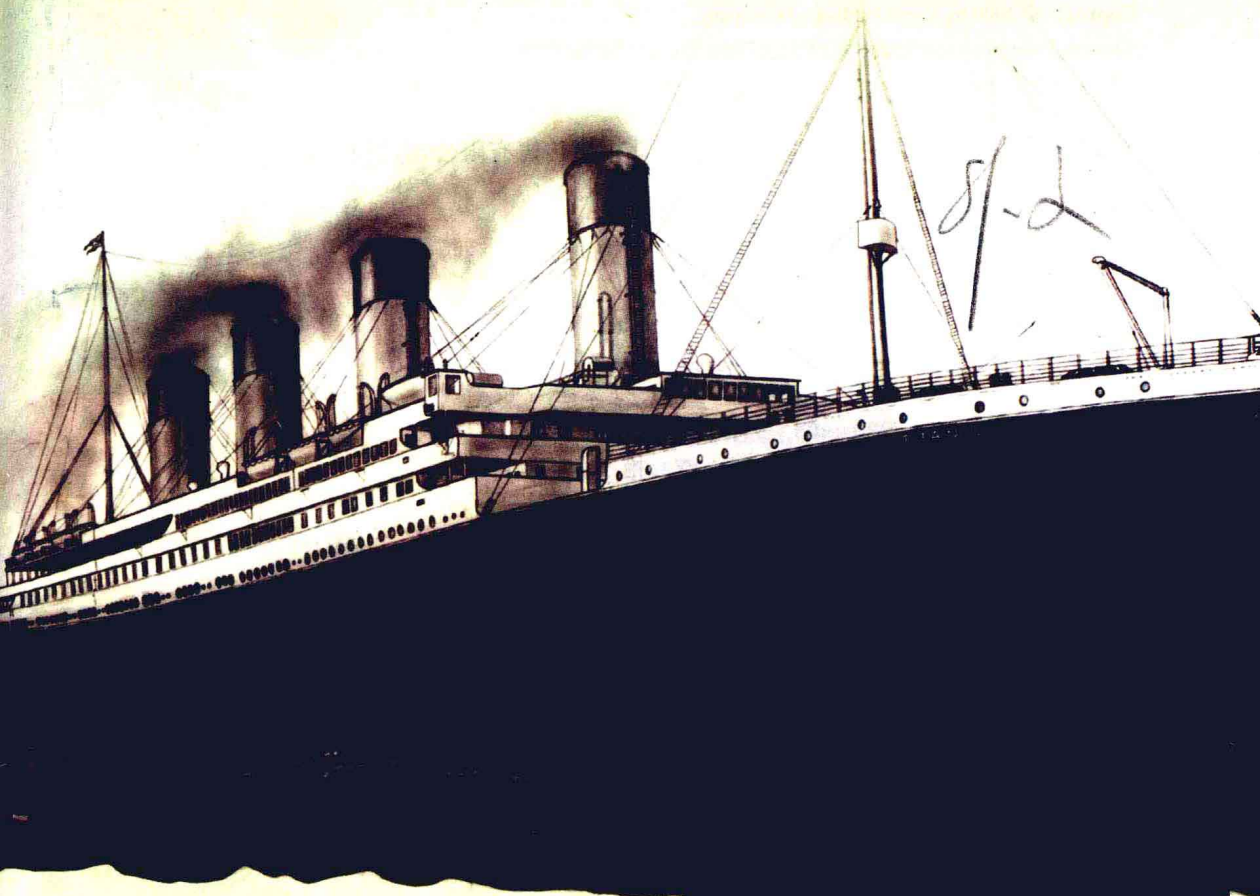
"Treasure" Hunters

中国教育学会
外语教学
专业委员会
推荐

沉船寻宝

"Treasure" Hunters

赵雪 译



京权图字 01—2004—4517

图书在版编目 (CIP) 数据

沉船寻宝 / 美国凯勒斯出版公司编著; 赵雪译.

北京: 中国电力出版社, 2005

(阅读空间·英汉双语主题阅读)

书名原文: "Treasure" Hunters

ISBN 7-5083-2671-7

I. 沉… II. ①美… ②赵… III. 英语—阅读教学—

高中—课外读物 IV. G634.413

中国版本图书馆 CIP 数据核字 (2004) 第 074823 号

"Treasure" Hunters

Copyright © 2000 by Carus Publishing Company.

Chinese Translation Copyright © 2004 by China Electric Power Press

All rights reserved.

《阅读空间·英汉双语主题阅读》由美国北极星传媒有限公司授权出版。

沉船寻宝

原著: Daria E. Merwin 等

翻 译: 赵 雪

责任编辑: 李 艳 李宝琳

出版发行: 中国电力出版社

社 址: 北京市西城区三里河路 6 号 (100044)

网 址: <http://www.centuryoriental.com.cn>

印 刷: 北京世艺印刷有限公司

开 本: 178 × 226

印 张: 3.5

字 数: 67 千字

版 次: 2005 年 1 月第 1 版, 2005 年 1 月第 1 次印刷

书 号: ISBN 7-5083-2671-7

定 价: 9.90 元

版权所有 翻印必究

如有印装质量问题, 出版社负责调换。联系电话: 010-62193493

Contents 目录

- 2 **Editor's Message** 编辑手记
- 4 **Underwater Archaeology:
Our Past Beneath the Waves**
海底考古：我们的过去在波浪下
- 10 **"Detective" Work** “刑侦”工作
- 12 **Diaries: A Tool of the Trade**
日记：海底考古的得力工具
- 14 **Uluburun – New Treasures from the Old World**
土耳其沿海：从远古社会中寻宝
- 18 **Diving into the Past : "Metal Biscuits With Ears!"**
潜入历史：“长耳朵的金属饼干！”
- 20 **More Than Money:
Sixteenth-Century Spanish Coins of the New World**
价值超过面值的硬币：
西班牙 16 世纪铸造的新大陆硬币
- 24 **Time in a Bottle** 瓶子里的时间
- 30 **Eerie Visions, Ghost Ships, & Buried Treasure –
The Cultural History of a Coastline**
恐怖的幻象、鬼船和地下宝藏：海岸线的文化传说
- 38 **Titanic Discoverer Robert Ballard:
Taking Marine Archaeology to New Depths**
“泰坦尼克”号残骸的发现者罗伯特·巴拉德：
将海洋考古学推向新阶段
- 43 **Deep-Water Buggies!** 深海工具
- 45 **Who Gets the Sunken Treasure?** 谁得到了海底宝藏？
- 52 **Teacher's Guide & Activity** 教师指导与活动

想 一想，潜入海洋深处，发现一艘人类数百年来从未踏足的15世纪的海底沉船；或者，你与他人发现广为人知的“泰坦尼克”号客轮，在那个冰冷阴森的墓地，到处都是在93年前那个令人难忘的夜晚遇难的乘客们遗留下来的财物，该作何感想。本书将带领读者探索恐怖可怕而又令人兴奋激动的海底考古学，了解推动这一学科深入发展的科学技术。

戴上水中呼吸器，回到古代遨游，展望未来的深海探宝吧！



UNDERWATER

Our Past Beneath the Waves

Scuba diving, computer modeling, dusty library research, chemistry, physics, all in one package? Yes, it's all in a day's work if you are an underwater archaeologist. Looking underwater for old shipwrecks and sunken harbors is a treasure hunt of a special kind. A scientist whose goal is to explore, not exploit, will consider gold a minor treasure. If he or she finds a whole ship or cargo of a lost civilization, it will be the thrill of a lifetime.

As you might know, archaeology is the scientific study of humankind's past. It focuses on material remains made or modified by people, and includes the study of all elements, even the smallest, that tell about the human past. The study of the past is not limited to the study of ancient civilizations. It is the study of the past in general, and the study of the past in particular. It is the study of the past in general, and the study of the past in particular.

Underwater archaeologists retrieve their clues not only from oceans but also from the bottoms of lakes, rivers, and seas as well. Some concentrate on submerged sites that once were dry. For example, many early Native American sites in North America are now underwater as the result of rising sea levels after the last ice

age (approximately 20,000 years ago). Other sites are the result of natural disasters, such as the earthquake that caused a part of the pirate city of Port Royal, Jamaica, to slip into the sea in 1692 (see "Time in a Bottle").

However, most underwater archaeologists specialize in *nautical* or *maritime* archaeology,

海底考古：

ARCHAEOLOGY:

by Daria E. Merwin

海底考古就是运用计算机模拟、背着落满灰尘的图书研究资料、配备化学和物理学的实验设备，戴着水中呼吸器在水中潜水作业吗？是的，如果你是一名海底考古者，这就是你每天的工作。在海底寻找古代沉船、沉没的海港是一项特殊的寻宝工作。在一个考古目的为探究海底世界而非发掘海底宝藏的科学

家眼里，黄金宝藏几乎一文不值。能够发现载着消失文明的沉船或货物，是他们一生最兴奋激动的时刻。

我们知道，考古学是针对人类过去历史的科学研究。它研究的对象主要是人类具有考古价值的工艺品、建筑物、动植物遗骸以及人类本身。考古学家研究人类历史上的文化生活及其保存下来的物质证据，旨在探讨人类的行为和文化。而正是海底考古学家在海底寻找着这些物质证据。

的书籍、陶器和钱币等，它们被埋在海底的地方被海水淹没。在一艘被埋藏于自然灾害造成的，例如，在1602年，一场大地震导致牙买加的海盗城罗亚尔港瞬间部分地陷入大海。

不过，大多数的海底考古学家更注意的

我们的过去在波浪下

5

by Daria E. Merwin

海底考古就是运用计算机模拟、背着落满灰尘的图书研究资料、配备化学和物理学的实验设备，戴着水中呼吸器在水中潜水作业吗？是的，如果你是一名海底考古者，这就是你每天的工作。在海底寻找古代沉船、沉没的海港是一项特殊的寻宝工作。在一个考古目的为探究海底世界而非发掘海底宝藏的科学

家眼里，黄金宝藏几乎一文不值。能够发现载着消失文明的沉船或货物，是他们一生最兴奋激动的时刻。

我们知道，考古学是针对人类过去历史的科学研究。它研究的对象主要是人类具有考古价值的工艺品、建筑物、动植物遗骸以及人类本身。考古学家研究人类历史上的文化生活及其保存下来的物质证据，旨在探讨人类的行为和文化。而正是海底考古学家在海底寻找着这些物质证据。

的结论：每个城市都至少有一个“安全区”，即居住的地方被要求建设，包有一道坚固的能免于自然灾害造成的，例如，在1602年，一场大地震导致牙买加的海盗城罗亚尔港要塞间部分地陷入大海。

不过，大多数的海底考古学家更热衷于

我们的过去在波浪下

which deals with the construction and operation of all types of boats and ships, as well as related topics such as harbors. Shipwrecks make up more than 90 percent of all underwater archaeological sites studied throughout the world today.

Underwater sites provide us with information not typically found on dry land sites. For example, artifacts related to sailing, such as ship parts and navigational equipment, are most likely to be found underwater. In addition, organic materials (including bone, wood, leather, and even food and insect remains) are often much better preserved in underwater conditions than on land. The most intriguing aspect of underwater sites, however, is their "snapshot" quality. A shipwreck is like a photograph, a moment captured in time: All of the artifacts found on

the site went down together. Think of a ship as a house at sea, or even a little self-contained village. Everything people needed would be found on board: food; water; cooking pots and serving dishes; bedding and other sleeping quarters needs; personal items such as clothing and jewelry; medical supplies; and even games to help pass the time on a long journey.

SCUBA AND A NEW SCIENCE

The *salvage* of sunken ships, or reclaiming their cargo from the sea, has a very long history, but underwater archaeology is a relatively new science. The biggest

是研究海底各类船只的构造和操作系统,以及海港等相关主题对象。在当今海底考古学界的研究中,90%以上的海底遗址都是由船只残骸构成的。

海底历史遗址给予我们的信息是陆地史迹无法提供的。例如,海船零件和导航设备等与航海紧密相关的古人类制造品,都很可能在海底找到。此外,有机材料(包括骨骼、木头、羽毛,甚至食品和昆虫的残骸)在海底要远比陆地上保存得好得多。然而,海底遗址探宝最引人入胜之处就在于他们的“快照定格”品质。一艘海底船只残骸宛如一张精彩的照片,必须及时捕捉:海底遗址中发现的所有人类制造品都是同一时刻沉入大海的。一艘轮船就是坐落在海底的一座房子,或者甚至是与外界隔绝的小村落。人们

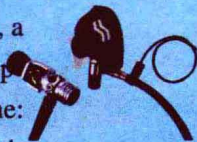
可以在船上得到所有需

要的物品:食物、水、锅碗瓢盆、被褥和首饰等个人所需品、医疗药品以及供人们打发漫长海洋旅途无聊

时光的各种消遣娱乐活动。

水中呼吸器和新兴科学

人们打捞海底沉船或从中回收货物已经有悠久的历史。然而相对而言,海底考古还是一门新兴的科学。海底探索遇到的最大阻碍就是技术问题:海底作业潜水员的呼吸设备至关重要。沉重的潜水头盔和全副武装的太空服般的防漏水服装已经运用了100多年,这些配备过于笨拙、危险。20世纪40年代,雅克·库斯托和埃米尔·盖南发明的水中呼吸器(这是一种自携式水下呼吸器,包括



obstacle to this kind of research had been technological: Working underwater requires equipment that allows the diver to breathe. Hard helmets and leakproof outfits that resembled crude spacesuits had been around for more than a century, but they were clumsy and dangerous. In the 1940s, it was the invention of SCUBA (Self-Contained Underwater Breathing Apparatus, now known simply as "scuba") by Jacques Cousteau and Emile Gagnan that made exploration beneath the waves widely possible.

Dr. George Bass, who is credited as the "father of underwater archaeology," was among the first archaeologists to learn to scuba dive, so that he could excavate a 3,000-year-old shipwreck in the Mediterranean Sea off Turkey in 1960. During the 1960s and 1970s, the field grew, as archaeologists realized the tremendous potential of sunken ships and submerged sites as information troves about how people lived in the past.

There was another reason archaeologists turned their attention to the sea floor. When scuba became widely available, almost anyone could explore shipwrecks and find artifacts. Although shipwrecks had always been in danger from storms and natural decay, with the availability of scuba, treasure hunters became the biggest threat. Today, there are different types of people involved in retrieving artifacts from the sea: archaeologists, who are formally trained to study a site and its artifacts for information; adventurers, who enjoy

压缩空气和在水下用于呼吸的便携式仪器——译者注)使海底考古者能够长时间地在深海里探索。被誉为“海底考古学之父”的乔治·巴斯博士是最早的一位配带水中呼吸器潜水作业的考古学家,这

使他1960年得以在土耳其沿岸的地中海海域发现一艘3000年前的船只残骸。20世纪六七十年代,考古学家逐渐认识到可以从海底沉船和海洋吞没的古代陆地等海底遗址中获得大量过去人类生活的信息和知识,海底

考古学随之兴起。

考古学家转向海底世界的研究还有另外一个原因。水中呼吸器获得广泛使用之后,几乎所有人都可以探索海底世界,寻找海底沉船和在海底保存下来的人类制品。长久以来,海底船只残骸面临的威胁主要来自猛烈的暴风雨以及海水等自然力的侵蚀。不过,随着水中呼吸器的推广,最大的威胁实际上来自于众多的寻宝者。目前,各色人群都在打捞海底沉船上的手工制品,其中有受过正规训练的考古学家,他们知道运用何种方法研究海底遗址和手工制品;有喜欢探险寻找残骸的冒险者,这类人会他们将他们探险发现的成果告诉考古学家;还有以盈利为目的的海底沉船打捞者。



the search for and discovery of a wreck and then report their find to archaeologists; and salvors, who comb the wrecks for treasure of monetary value. In this issue, you will find articles on the work of archaeologists and the adventurers who often work alongside them.

WHAT WE LEARN

The questions archaeologists try to answer can be broad. (How did people live in the late sixteenth century?) Or, they can be more specific. (Can this shipwreck tell us about Spanish shipbuilding technology and sailing techniques in the late sixteenth century?) Gold coins found on a shipwreck may be worth money to a private collector, but to an archaeologist they are precious because they reveal information about the people who made and used them.

One archaeological site has the potential to answer many different questions. Because of this, archaeologists make their dig field-notes (as well as photographs) and artifacts available for the public and other researchers to examine. All this information is usually stored at museums or universities, and archaeologists publish the results of their work in articles and books. Unfortunately, the artifacts found by salvors are usually sold, and researchers miss the opportunity to study them. Each underwater site is unique — a nonrenewable resource. That is, once a site has been excavated, it can never be dug again. Because there is only one chance, it's important to weigh the pros and cons of excavating in the first place. Sites in danger of being destroyed by looting or by natural processes such as erosion need to be studied as soon as possible, before all of their information is lost.

But what about sites that are not in immediate

启迪

考古学家需要解决的问题很广泛(例如,16世纪末人们的生活状态如何?),或者比较具体些(这艘船只残骸可否提示我们16世纪末西班牙造船技术和航海技术?).海底沉船中发现的金币对个人收藏者来讲可以换取很多钱,而对于考古学家来说,这些金币之所以弥足珍贵,是因为它们可以提供制造金币和使用金币的人的相关信息。

考古遗址可以给我们提供很多信息。正因如此,考古学家做了大量的野外记录,拍摄了大量的照片,收集了许多寻找到的手工制品,供研究者研究分析。所有此类信息往往保存在历史博物馆或大学里。考古学家通常会发表文章或撰写专著来讲述他们的考古成果。然而,以盈利为目的的打捞者,寻找到海底手工制品后,往往会以高价出售,这使研究者失去了研究这些物品的机会。每一处海底遗址都具有独一无二的研究价值,是一种不可再生的资源。海底遗址一旦被挖掘了,就将再也无法二次挖掘了。正是因为挖掘海底遗址的机会只有一次,挖掘前一定要权衡利弊。对于那些可能会被人为抢掠或遭受自然力侵蚀的海底遗址,研究资料可能会失去,必须及时进行挖掘。

那么对于短期内不会面临上述破坏

danger? Many archaeologists have now turned their attention to documenting these sites instead of excavating them. Documenting a site means describing it with a written report, drawing maps, and taking photographs or video footage, without actually disturbing the site by digging and retrieving artifacts.

The main reason for not disturbing a site now is that current technology might be replaced by something better in the future. For example, today one of the most widely used methods for locating sites on the sea floor is side-scan sonar, with which acoustic signals (sound waves) are bounced off the seabed. Things that are in the way of the acoustic signals, such as a shipwreck, block them and show up as a shadow on the digital image. Before computer advances in the 1990s, side-scan sonar images were grainy, black and white, and hard to decipher accurately. Today, high-resolution side-scan color images are so detailed that it is possible to pick up the shadows of individual scuba divers and their bubbles as they swim across a site! Another example of technological advances in this field is the pioneering work of Dr. Robert Ballard and his associates, discoverers of the famous ill-fated luxury liner, the Titanic. Ballard's team is now using submarines and remotely operated vehicles (ROVs) to explore deeper in the ocean than we have ever gone before. It's exciting to think of what future technology will bring to the science of "treasure" hunting, as we continue to evaluate what "treasure" really is.

的海底遗址呢?许多考古学家致力于用文字来记载这类海底遗址,而不提倡对它们进行挖掘。记载这类遗址就是指运用书面报告、地图描绘、拍摄图片或摄像等手段将海底遗址记录下来,而不是通过挖掘或打捞等方式改变遗址的现状。

这么做的重要原因是因为未来社会可能会提供更先进的科学技术来取代目前的技术手段。例如,当今,确定海床的海底遗址时,运用最广泛的方法就是侧扫声纳技术。这种技术通过声波可以从海床直射回来的原理测定海底遗址的位置。声波如果碰到沉船残骸等物体时,它们就会阻碍声波的传播,在数据图像上就显示出一个阴影。20世纪90年代以前,计算机技术还不发达的时候,侧扫图像有明显的颗粒,是黑白显像的,很难真实准确地描绘实物。目前,高清晰度侧扫彩色声纳图像很详细,可以非常清晰地看到每位潜水员在海底的一举一动,甚至还可以看到他们在海底遨游时呼吸的气泡。在海底考古学界,技术进步的另一个典型例子就是罗伯特·巴拉德博士和他的同事们所做的开拓性工作:发现了著名的海底沉船——豪华邮轮“泰坦尼克”号。巴拉德博士团队目前正使用潜艇和远程遥控器向更深海底世界进军。“宝藏”的真正价值有待确定,想到未来的科技手段将给“寻宝”科学带来的帮助是多么让人兴奋啊!





"Detective" Work

by Rosalie F. Baker

“刑侦”工作

Analyzing shipwrecks is similar to detective work. Divers must always remember: The crews of ships in trouble often tossed overboard unnecessary cargo, including cannons, to lighten their load. Some ships in distress went for a kilometer before actually sinking. An entire ship did not always sink and settle in one spot. Thus, as much may be learned from the "scatter" or "spill" of a sinking vessel as from the ship itself.

- Cargo and personal property help identify the nationality of a vessel and the approximate date of the wreck. Cargo also indicates whether the ship was used for trade, or as a *privateer* (privately owned and manned armed ship that has been commissioned by a government to attack and seize enemy ships), or as an official naval vessel. Sometimes it's difficult to tell whether cargo is booty or the possessions of wealthy passengers. In such instances, there are often other telltale signs. A ship with basic gear and few amenities (extra conveniences) is usually a privateer.

分析、研究、鉴定海底沉船残骸和刑侦工作相似。潜水员必须时刻牢记：遇难的船员们为减轻船体的负载，通常会将船上的大炮等非必需品抛掷到海里。有些船遇难后，会航行一公里后才下沉。通常情况下，整艘船从开始下沉到整个船体沉没往往不是同一个地方。因此，确定沉船位置不仅要研究船只向海里抛弃的物品或散落物，还要研究这艘沉船。

- 沉船上的货物和个人物品有助于确定沉船的国别以及该船遇难的大概年代。船上的货物还能表明该船是货船、武装民船（即私人所有并有武装的船只，在战时经政府授权参与攻击和掠夺敌船），还是官方的军舰。有时，很难判断出船上的货物是缴获的战利品还是富裕乘客拥有的私人财物。这种情况下，可以依靠其他迹象进行判断。一艘船如果安装着基本设备而极少有舒适型设施（即豪华型设备），通常情况下，这是一艘武装民船。如果一艘船提供了诸多的舒适设备，它要么是一艘私船，要么是一艘官船。

One that offered passengers more comforts may have been privately owned or a government vessel.

- Specific tests on a ship's timbers can identify the wood, and often the shipyard where it was built.
- The maker's mark or stamp on a gold *ingot* is another important clue in the identification process.
- *Ballast* (anything carried in a ship to give stability) is another clue to identity. By the 1600s and 1700s, it was common practice for shipbuilders to use heavy gravel dredged from the bottom of a nearby river for ballast. Similar finds of gravel connect not only a ship with a shipyard, but one ship with another.
- Seeds and other food particles found in the bottom of a ship help identify where a ship might recently have put into port, as well as its port of origin. Firewood is very important, because it indicates the geographical location of the last port.

- 对船骨进行具体的检验，确定造船所用的木材，判断该船是在什么地方的船坞建造的。

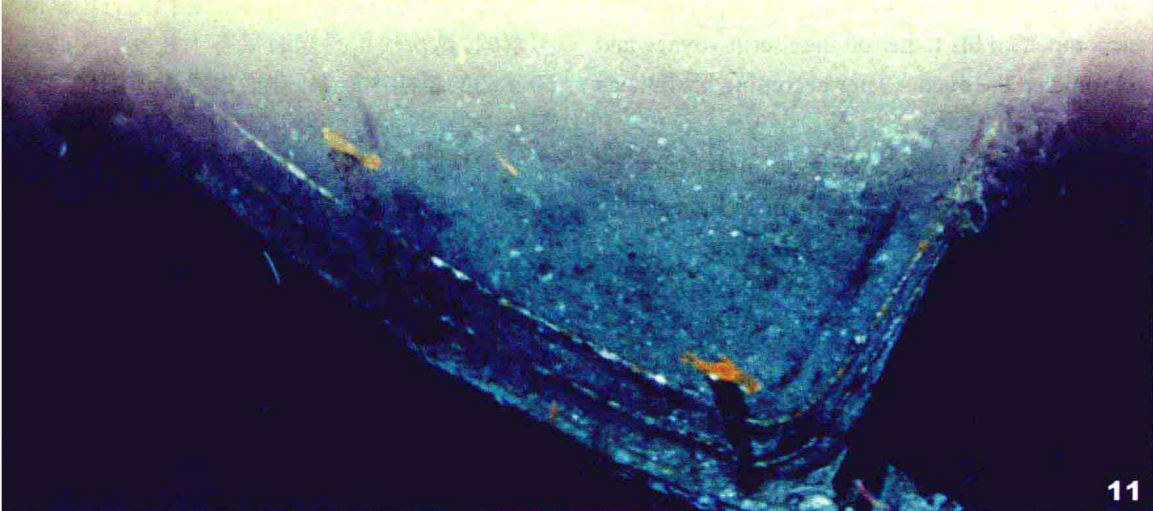
- 造船者在金锭（即一条状或块状的金属，通常制成标准的形状，目的是方便存储或运输）上所作的标记或印章是可以鉴定船只的另一条重要线索。


- 压舱物（即放在船舱里以增加稳定性的重物）是有助于鉴定船只的又一条线索。到

了17和18世纪，造船师们通常会将从附近河流底部挖掘的很重的砾石用作做压舱物。发现相似的砾石不仅能将一艘船与船坞联系起来，还可使船与船之间联系起来。

Ingot
A bar or block of metal cast in standard shapes for easy storage or shipment

- 船底附着的种子和其他的食物微粒有利于确定此船在临近沉没时停靠过什么地方，以及它的出发港在何地。木柴也是十分重要的线索，借助它可以确定此船最后一次停泊港所处的位置。





Diaries: A Tool of the Trade

by Christa Pandey

For centuries, finding shipwrecks was more an art than a science. Long before sonar and computer models could aid in the search, recreational and sponge divers alerted archaeologists to sunken wrecks. Ships often sank close to a harbor, where they had futilely sought shelter from a storm or had hit an underwater obstruction — or both. Surviving passengers or eyewitnesses recorded the event, which is why some ships are found, in a sense, on the shelves of libraries. Real treasures for archaeologists are the diaries of captains and literate passengers who wrote about an entire voyage.

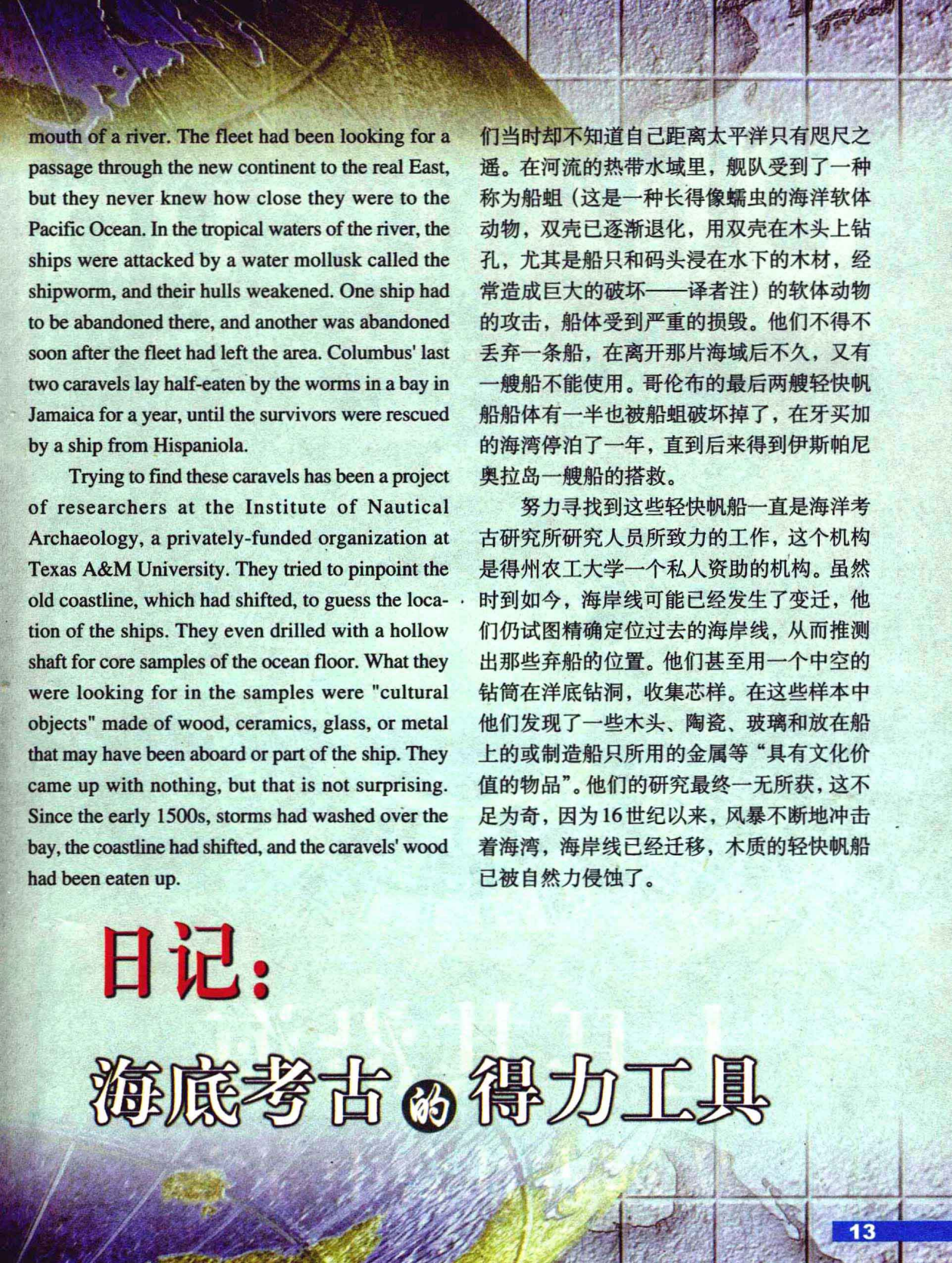
Take Columbus, for example. Although he was a skilled mapmaker and recorded every detail of his discoveries, most of his maps were destroyed when newer ones became available. What we know about his last voyage was written in the diary of his son Ferdinand, who as a teenager accompanied his father on the fourth voyage and chronicled the events, later becoming his father's biographer.

From Ferdinand's writings, archaeologists learned that the four *caravels* (small, light sailing ships used for exploration) were grounded for a time at the coast of modern-day Panama in the

几百年来，寻找沉船已远远不仅仅是一门科学，它已经逐渐形成了一门艺术。早在声纳技术和计算机模型在此领域运用之前，潜水爱好者和以营利为目的的打捞者使考古学家将研究视角转移到海底沉船。船只通常会在海港附近沉没，这是因为人们常常会在暴风雨中孤注一掷地寻找避风港，还有的是因为在海岸附近船只容易撞击到海底障碍物，当然有的沉船两种情况兼而有之。幸存下来的乘客或者惨案目击者会记录下这一经历。从某种意义上讲，正是通过一本本日记，一些沉船才被考古学家找到，得以重出海面。考古学家眼里真正的宝藏就是船长和乘客撰写的日记。

以哥伦布为例。虽然他是一位经验丰富、训练有素的地图绘制者，能够详尽地记录沿途的所见所闻，但是每当新的地图绘制出来，大多数旧的地图就毁掉了。相反，哥伦布的最后一次航海经历是根据他儿子斐迪南的日记获得了解的。这次航行是当时只有十几岁的斐迪南陪父亲的第四次航海，斐迪南沿途详细地记录了整个航海过程，最后撰写了父亲的传记。

根据斐迪南的日记，考古学家知道，哥伦布船队的四艘小吨位轻快帆船曾经停靠在今天巴拿马一条河流的海口处。这支船队试图寻找一条从新大陆通往真正的东方的通道，然而他



mouth of a river. The fleet had been looking for a passage through the new continent to the real East, but they never knew how close they were to the Pacific Ocean. In the tropical waters of the river, the ships were attacked by a water mollusk called the shipworm, and their hulls weakened. One ship had to be abandoned there, and another was abandoned soon after the fleet had left the area. Columbus' last two caravels lay half-eaten by the worms in a bay in Jamaica for a year, until the survivors were rescued by a ship from Hispaniola.

Trying to find these caravels has been a project of researchers at the Institute of Nautical Archaeology, a privately-funded organization at Texas A&M University. They tried to pinpoint the old coastline, which had shifted, to guess the location of the ships. They even drilled with a hollow shaft for core samples of the ocean floor. What they were looking for in the samples were "cultural objects" made of wood, ceramics, glass, or metal that may have been aboard or part of the ship. They came up with nothing, but that is not surprising. Since the early 1500s, storms had washed over the bay, the coastline had shifted, and the caravels' wood had been eaten up.

们当时却不知道自己距离太平洋只有咫尺之遥。在河流的热带水域里，舰队受到了一种称为船蛆（这是一种长得像蠕虫的海洋软体动物，双壳已逐渐退化，用双壳在木头上钻孔，尤其是船只和码头浸在水下的木材，经常造成巨大的破坏——译者注）的软体动物的攻击，船体受到严重的损毁。他们不得不丢弃一条船，在离开那片海域后不久，又有一艘船不能使用。哥伦布的最后两艘轻快帆船船体有一半也被船蛆破坏掉了，在牙买加的海湾停泊了一年，直到后来得到伊斯帕尼奥拉岛一艘船的搭救。

努力寻找到这些轻快帆船一直是海洋考古研究所研究人员所致力的工作，这个机构是得州农工大学一个私人资助的机构。虽然时到如今，海岸线可能已经发生了变迁，他们仍试图精确定位过去的海岸线，从而推测出那些弃船的位置。他们甚至用一个中空钻筒在洋底钻洞，收集芯样。在这些样本中他们发现了一些木头、陶瓷、玻璃和放在船上的或制造船只所用的金属等“具有文化价值的物品”。他们的研究最终一无所获，这不足为奇，因为16世纪以来，风暴不断地冲击着海湾，海岸线已经迁移，木质的轻快帆船已被自然力侵蚀了。

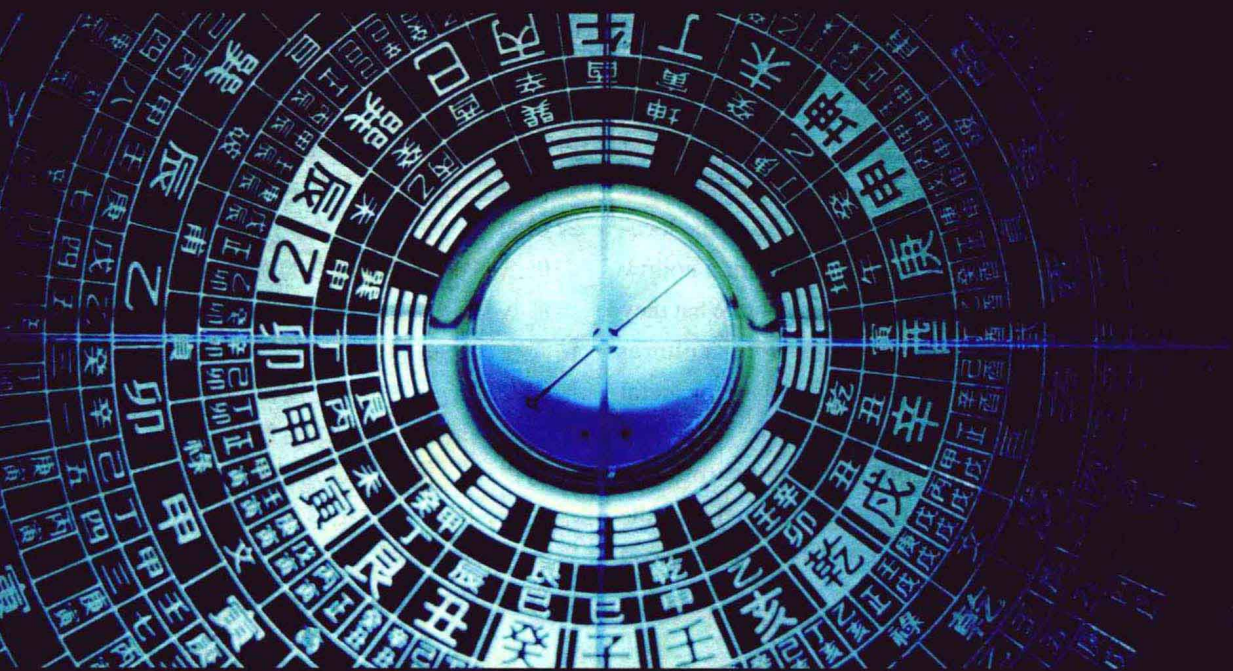
日记：

海底考古的得力工具

by Natalie M. Rosinsky

Uluburun

New Treasures From the Old World



土耳其沿海： 从远古社会中寻宝