

Teaching Eighth-Grade **TEXT FEATURES** Using *WRITTEN IN BONE*

Features that help students understand how an informational text is organized:

FEATURE	PURPOSE
Title page	Confirms title, author's name, and publisher
Contents page	Identifies the topics to be presented and their order
Chapter name, heading, or subheading	Helps students identify main topics on a quick pass through the text
Further Reading and Websites	Helps students expand their knowledge of the topic by listing other informational texts in print or on the Internet
Index	Lists the main ideas in the text, with page numbers to help students find them

Visual aids that help students understand informational texts:

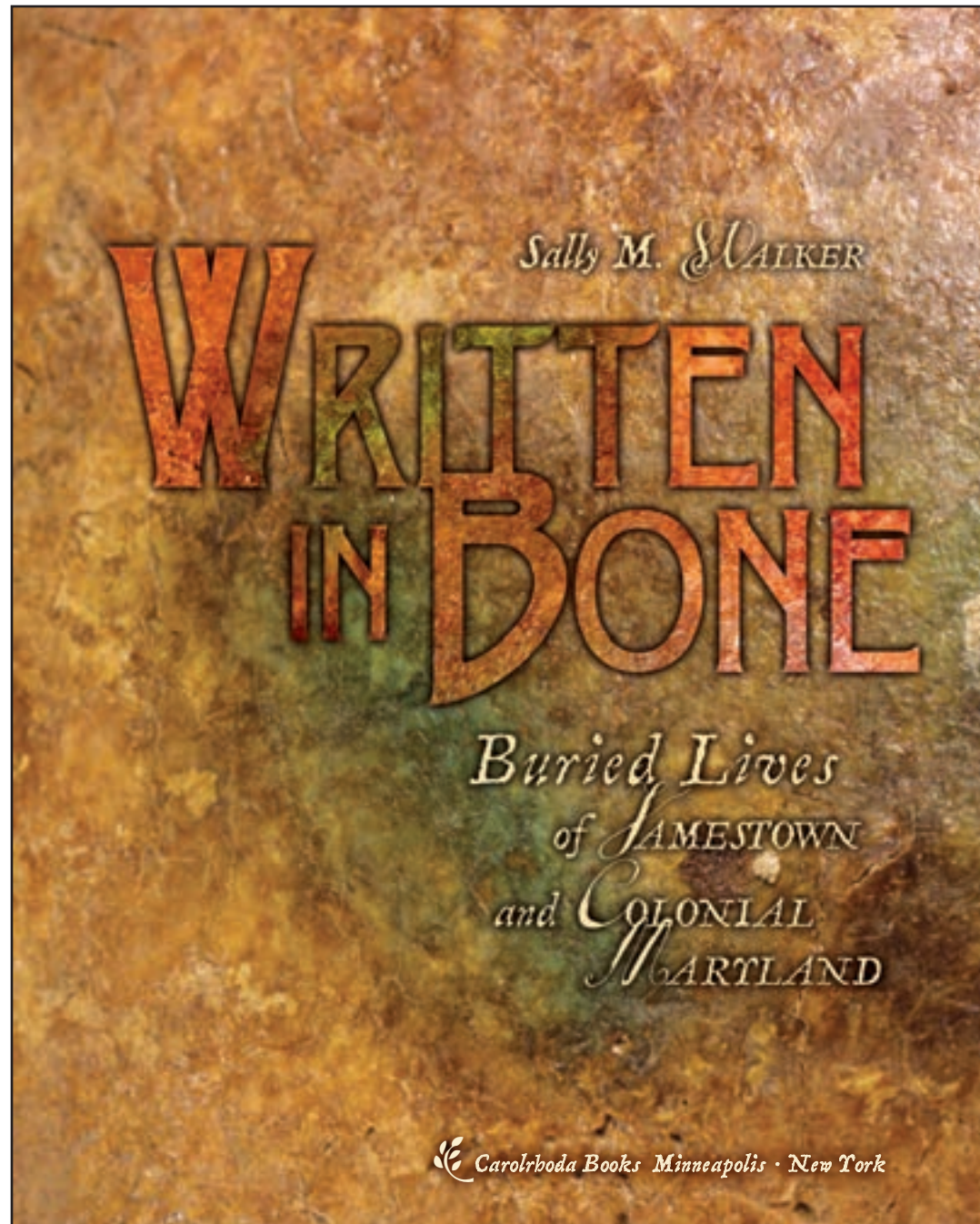
VISUAL AID	PURPOSE
Photo, drawing, or illustration	Shows how something in the text looked or might have looked
Diagram	Gives a more detailed view of a complex topic
Map	Puts the places in the informational text in the context of space and time

Features that point out important or additional information:

FEATURE	PURPOSE
Copyright page	Tells students how current the information in a book is
Note to Reader	Sets forth the author's purpose for writing the book
Colored print	Highlights a key topic or feature
Italic print	Tells students the word is supposed to stand out. It may be for emphasis or because it is a book name, a newspaper, a movie title, a foreign word, or the directional for a photo or an illustration.
Caption	Points out what's in a photo, a drawing, or an illustration and relates it to the informational text; often gives more information
Label	Identifies important points of interest in a diagram or photograph that students might otherwise miss
Source Note	Tells the student where quoted material came from
Timeline	A chart or list that helps students understand the sequence of events in the informational text
Author's Acknowledgment/Afterword	Winds down the informational text; sets forth the names of those with whom the author worked to create the book



TITLE PAGE: This page lists the title, author, and publisher of the book.



COPYRIGHT PAGE:

This page tells you the year the book was published. This may be important for report writing when you need up-to-date information. On this page, you can also find the address of the publisher.

COPYRIGHT YEAR

For all who understand the importance of asking questions and especially for those who enjoy embarking on a voyage of discovery. Knowledge truly is the key that opens all doors.
—S.M.W.

Texture fills the title type on the cover, the title page, and the chapter headings and is also used in the background of the title page. The pattern is an extreme close-up of the skull of a woman who lived in colonial Maryland. The texture thus is literally “written in bone.”

Front Cover: Skeleton of Levy Neck boy in situ. *Back Cover:* Archaeologists document the graves at the site of the Catholic chapel in St. Mary’s City.

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CONTENTS PAGE: This lists the chapters by chapter title and the pages on which they begin. After the chapter list, there may be a list of extra features, such as source notes or an index, that you'll find at the end of the book.



CONTENTS

A NOTE TO THE READER	— 4
CHAPTER ONE: <i>A Grave Mystery</i>	— 8
CHAPTER TWO: <i>Who Were You?</i>	— 22
CHAPTER THREE: <i>Out of the Grave</i>	— 36
CHAPTER FOUR: <i>The Captain</i>	— 44
CHAPTER FIVE: <i>The Body in the Basement</i>	— 54
CHAPTER SIX: <i>The Luxury of Lead</i>	— 68
CHAPTER SEVEN: <i>The Lead-Coffin People</i>	— 84
CHAPTER EIGHT: <i>Expect the Unexpected</i>	— 108
CHAPTER NINE: <i>Remember Me</i>	— 126
SOURCE NOTES	— 135
TIMELINE	— 136
SELECTED BIBLIOGRAPHY	— 138
FURTHER READING AND WEBSITES	— 139
AUTHOR'S ACKNOWLEDGMENTS	— 140
INDEX	— 142



NOTE TO READER:

This section usually comes before the main text. The author tells the reader things about researching or writing the book.

A NOTE TO THE READER

YEARS AGO, when I was in college, I studied archaeology, a branch of science that helps us learn about people of the past. My work included an excavation—what archaeologists call a dig—in which my classmates and I uncovered evidence of the lives of people who had lived several thousand years earlier. The only remaining traces of their civilization were darkened circles of soil, fire-cracked rock surrounded by charcoal, and stone artifacts: spearpoints, knives, and a pestle for grinding corn. I wondered: *Who were these people? How had they lived?*

Much more recently, while touring an eighteenth-century plantation in South Carolina, I saw a sign that directed visitors toward a cemetery where slaves had been buried. An overgrown path, obviously seldom used, led into the woods. I decided to visit the cemetery and pay my respects to the people who had built and worked on the plantation.

I soon reached a clearing scattered with saplings and shrubs. A small wooden sign noted that in keeping with African tradition, the graves were not marked. I looked around, wondering where they might be. Then I remembered that an archaeologist had once given me a hint that could answer my question. During the eighteenth century, people were usually buried in wooden coffins. Over time, as the wood weakens, the weight of the soil on the coffin's lid may cause it to collapse. The soil sinks, leaving a depression on the surface of the ground.

Looking at the ground more carefully, I noticed slivers of shadows, visible only when the sun's rays caught the edges of very slight indentations in the soil surface. And suddenly I could see a pattern of graves, side by side, one after another, reminders of the people who had lived and worked on the land around me. *Who were they, and what were their lives like?*

Those questions stayed with me, just as the questions of my college years had. Then Dr. Douglas Owsley (*pictured, facing page*), a scientist at the Smithsonian Institution, asked me if I would be interested in writing a book about colonial settlers who had lived during the seventeenth and eighteenth centuries in Virginia and Maryland. This area, called the Chesapeake because it surrounds the Chesapeake Bay, includes the settlement of Jamestown as well as many other settlements. I immediately agreed to write the book. The prospect was particularly exciting because I knew that Dr. Owsley learns about the people of the past in an unusual way:

CHAPTER TITLE:

This tells you what topic will be discussed in the chapter. Chapter titles often give you the main ideas of the book.

Chapter One

A GRAVE MYSTERY

ON AUGUST 16, 2005, the air temperature on the bank of the James River in Jamestown, Virginia, hovered at 100°F (38°C). Sunlight flooded the beige-colored soil. At the bottom of a carefully excavated pit, the rounded surface of a human skull gleamed with a yellow brown luster. The teeth shone white against the darker jawbone and the brownish soil beneath. The skeleton's leg bones stretched long and straight, toward the end of the grave. In contrast, the arms were chaotically bent. The left arm lay across the body, with the right flung up toward the shoulder.

Who was this person? There was no gravestone to offer a name. No signs of a coffin, no pieces of clothing, no buttons. Nothing to identify the remains. Only bones.

Yet the small group of scientists who had gathered a few inches from the pit's rim were confident they were about to learn more. One of them,



WRITTEN
IN BONE

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HEADINGS AND SUBHEADINGS:

These separate the main text into smaller chunks of information.

CAPTION: This is a description of a photo or diagram. A caption is usually placed close to the picture it describes. Sometimes a caption will tell you if the picture is a photo or a drawing. A caption may also give you additional information that is not in the main text.

Up on a Pedestal

In theory, the team could have continued the excavation and started to remove the bones from the grave for further study. But once a skeleton has been moved, it isn't possible to re-create the burial scene with complete accuracy, especially if the bones are in poor condition. A forensic anthropologist such as Doug Owsley can gather many significant pieces of evidence by examining the bone *in situ*. (*In situ* is a Latin term meaning "in the exact position and place where an object is first found.") For this reason, the team's focus was not on removing the bones quickly but rather on preparing them for evaluation by Owsley.

As Hudgins explained, "The next step was to pedestal the bones. In this process we remove all the soil surrounding the bones except for that which is directly under them. . . . The bones are left lying on a pad of soil." Pedestalizing results in the highest possible visibility of the details of a skeleton as well as its position in the grave.

As Hudgins pedestaled the bones, he noticed that the bones of the legs and feet were arranged in a straight line. That is, the legs were positioned close together at the knees, ankles, and feet, with the toes pointed straight up in the air. These were signs that the boy's body had been shrouded, or wrapped in a cloth, before it was buried. Because fabric decays more slowly than organic tissues, the shroud would have held the boy's bones close together even after his muscles and ligaments had decomposed. If a shroud had not been present to hold the bones in place, several inches of space would have eventually separated the boy's left and right legs and the feet would have splayed, with the toes pointing outward.

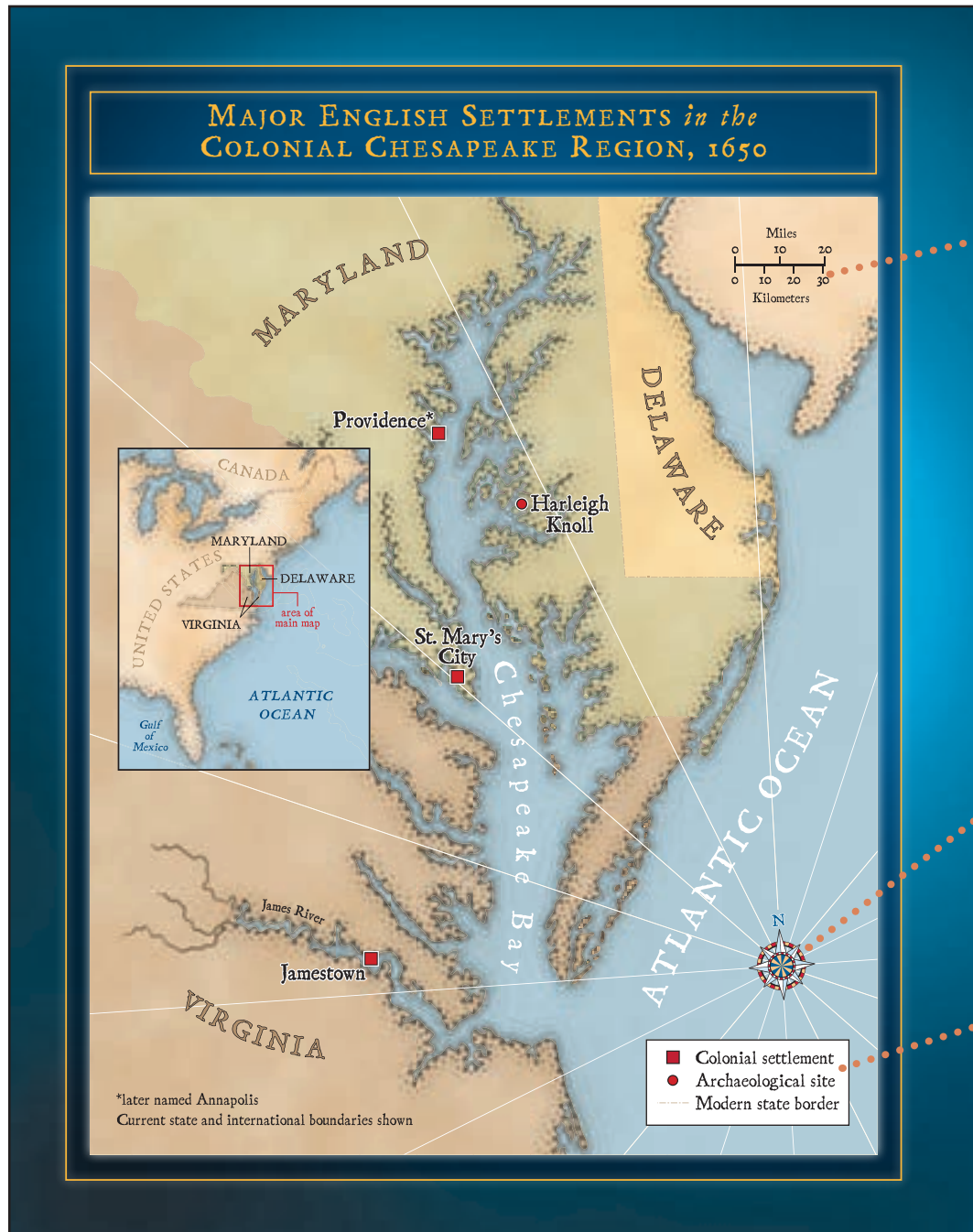


BECAUSE JR1225B'S LEG BONES were so close together, Hudgins and Kelso concluded the remains had been shrouded.

ITALIC: This type is slanted to make a word or phrase stand out. Italicized words may be names of books, newspapers, movies, ships, or foreign words. They may also tell you which caption goes with which photo.

Who Were You? ~ 25

MAP: This flat drawing shows the shape and features of a place, such as a country, a state, or a city. The title of the map may be at the top of the drawing.



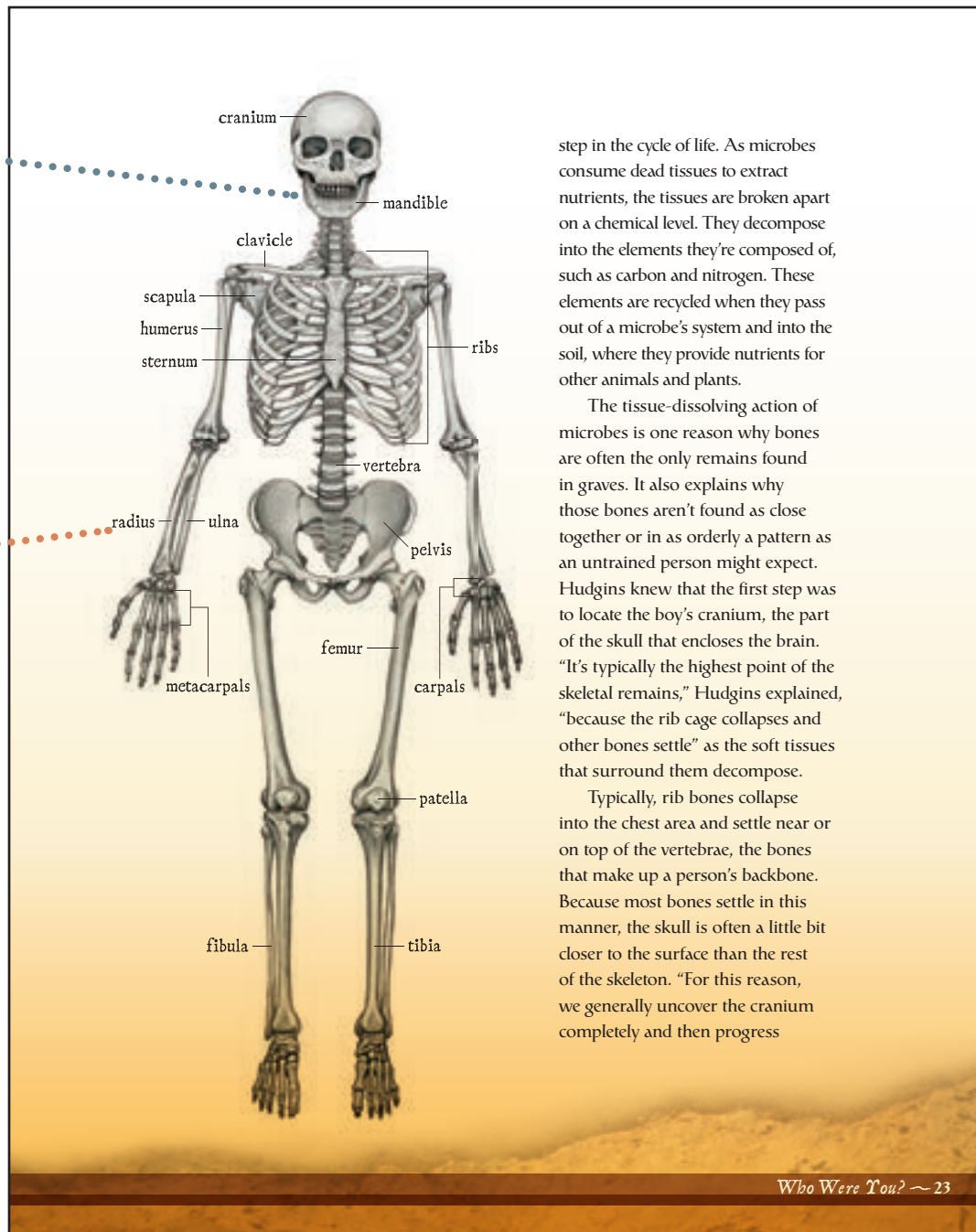
MAP SCALE: Maps are much smaller than the places they depict. They are shrunk, or scaled down, to fit on a page. The map scale is a chart with a line and distances in miles or kilometers. The scale shows how many miles or kilometers the line represents as a distance on the map.

COMPASS ROSE: This symbol on a map shows you where to find the four directions—north, south, east, and west.

MAP LEGEND OR KEY: This chart lists symbols used on a map. Words in the legend tell what each symbol means.

DIAGRAM: This is a drawing that gives a simpler view of complex information. Short labels point out important parts of the drawing.

LABELS: These words on a diagram or photo point out important parts of the diagram or photo. On a map, labels name important features, such as rivers or cities.



step in the cycle of life. As microbes consume dead tissues to extract nutrients, the tissues are broken apart on a chemical level. They decompose into the elements they're composed of, such as carbon and nitrogen. These elements are recycled when they pass out of a microbe's system and into the soil, where they provide nutrients for other animals and plants.

The tissue-dissolving action of microbes is one reason why bones are often the only remains found in graves. It also explains why those bones aren't found as close together or in as orderly a pattern as an untrained person might expect. Hudgins knew that the first step was to locate the boy's cranium, the part of the skull that encloses the brain. "It's typically the highest point of the skeletal remains," Hudgins explained, "because the rib cage collapses and other bones settle" as the soft tissues that surround them decompose.

Typically, rib bones collapse into the chest area and settle near or on top of the vertebrae, the bones that make up a person's backbone. Because most bones settle in this manner, the skull is often a little bit closer to the surface than the rest of the skeleton. "For this reason, we generally uncover the cranium completely and then progress

Who Were You? ~ 23



SOURCE NOTES:

These list the books, magazines, and other resources from which the author borrowed specific quotations.

Source Notes

- 9 Douglas Owsley, personal communication to author, September 10, 2005.
- 18 Carter C. Hudgins, e-mail to author, August 2, 2006.
- 20–21 William Kelso, interview by author, Jamestown, VA, August 16, 2005.
- 21 Hudgins, telephone conversation with author, October 20, 2005.
- 22 Hudgins, e-mail to author, October 24, 2005.
- 23 Hudgins, telephone conversation, October 20, 2005.
- 23–24 Ibid.
- 25 Ibid.
- 27 Ibid.
- 35 Owsley, telephone conversation with author, October 6, 2005.
- 37 Michael Lavin, e-mail to author, January 25, 2006.
- 42 Kari Bruwelheide, e-mail to author, July 11, 2007.
- 42 Ibid.
- 43 Catherine Correll Walls, APVA/Preservation Virginia, *The Jamestown Biographies Project 2007*, Entry #789, 940, communicated to author via e-mail, July 17, 2007.
- 45 Kelso, interview by author, Jamestown, VA, August 15, 2005.
- 46 Ibid.
- 46 Ibid.
- 47 Ibid.
- 48 Owsley, telephone conversation with author, October 6, 2005.
- 50 George Percy, *Observations Gathered out of "A Discourse of the Plantation of the Southern Colony in Virginia by the English, 1606,"* ed. David B. Quinn (Charlottesville: University of Virginia Press, 1967), 24–25.
- 52 Kelso, interview, August 15, 2005.
- 53 Ibid.
- 53 Ibid.
- 55 Al Luckenbach, telephone conversation with author, October 24, 2005.
- 55 Ibid.
- 56 Ibid.
- 57 Ibid.
- 58 Ibid.
- 59 Ibid.
- 59 Ibid.
- 60–61 Owsley, telephone conversation with author, October 6, 2005.
- 62 Owsley, telephone conversation with author, June 16, 2008.
- 62 Owsley, telephone conversation with author, January 6, 2006.
- 66 Owsley, telephone conversation with author, June 3, 2008.
- 66–67 Owsley, telephone conversation, June 16, 2008.
- 68 Henry Miller, interview by author, St. Mary's City, MD, August 10, 2005.
- 70 Ibid.
- 70 Stephanie Bandy Nutt, telephone conversation with author, September 19, 2005.
- 70 Miller, e-mail to author, September 7, 2005.
- 70 Nutt, telephone conversation.
- 72 Ibid.
- 74 Tim Riordan, e-mail to author, September 19, 2005.
- 74 Nutt, telephone conversation.
- 75 Miller, interview.
- 79 Ibid.
- 85 Silas Hurry, interview by author, St. Mary's City, MD, August 10, 2005.
- 87 Ibid.
- 94 Miller, e-mail to author, January 11, 2008.
- 94 Owsley, telephone conversation with author, October 6, 2005.
- 98 Miller, interview.
- 100 Miller, e-mail to author, February 1, 2006.
- 100 Miller, interview.
- 101 Ibid.
- 102 Ibid.
- 106 Ibid.
- 110 Dana Kollmann, e-mail to author, September 5, 2006.
- 110 Laurie Burgess, e-mail to author, February 6, 2006.
- 110–111 Ibid.
- 116 Kollmann, e-mail.
- 116 Ibid.
- 122 Owsley, telephone conversation with author, June 26, 2008.
- 128 Joanna Hughes, e-mail to author, December 11, 2007.
- 128 Ibid.
- 128 Ivan Schwartz, telephone conversation with author, December 10, 2007.
- 128 Schwartz, e-mail to author, January 16, 2008.
- 131 Owsley, telephone conversation, June 28, 2008.
- 132 Bruwelheide, e-mail to author, January 17, 2008.
- 132 Ibid.
- 132 Miller, e-mail to author, January 11, 2008.
- 132 Ibid.
- 132 Owsley, telephone conversation with author, June 28, 2008.
- 133 Ibid.
- 133–134 Hudgins, e-mail to author, January 16, 2008.
- 134 Bruwelheide, e-mail to author, January 17, 2008.
- 134 Miller, e-mail to author, January 11, 2008.
- 134 Owsley, telephone conversation, June 28, 2008.



TIMELINE: This list at the end of the book captures the dates on which important events mentioned in the book took place.

TIMELINE

- 1602 Bartholomew Gosnold explores the shores of what later became Massachusetts and Maine.
- 1606 Three ships leave England en route to North America to found the Virginia Colony. Gosnold captains one of the ships.
- 1607 The ships arrive, and the all-male crew members build James Fort.
- 1608 The original James Fort burns to the ground. The colonists build a second fort. Ships from England carrying women colonists arrive.
- 1609 Spanish ambassador Pedro de Zuniga draws a simple map of James Fort and sends it to the king of Spain.
- 1609–1610 A harsh winter at James Fort, during which many die, comes to be known as the Starving Time.
- 1619 The first Africans arrive in Jamestown.
- 1630s James Fort disappears from the historical record. Cecil Calvert, Lord Baltimore, receives a land grant from King Charles I of England to found a colony in North America. Calvert names the colony Maryland after the king's wife.
- 1634 Ships belonging to Lord Baltimore land in North America. The colonists on board found St. Mary's City, Maryland. Mathias de Sousa, an indentured servant of African and Portuguese ancestry, arrives in Maryland.
- 1645–1655 During unrest in England, Lord Baltimore loses control of Maryland.
- 1657–1659 Lord Baltimore regains control of Maryland. Meanwhile, his half brother Philip holds various offices in Maryland.
Colonial officials grant land in Maryland to Thomas Taylor.
- 1661–1675 Lord Baltimore's eldest son, Charles, is governor of Maryland.
- 1662–1677 William Neale acquires a property called Leavy Neck in Maryland. He lives there until his death.
- 1667 Catholic priests in Maryland build a chapel in St. Mary's City.
- 1668–1671 Philip Calvert is mayor of St. Mary's City.
- 1675 Cecil Calvert dies in England.



FURTHER READING:

This list at the end of the book suggests books and websites on the same or related subjects. This list can be helpful in doing research for reports.

INTERVIEWS

Bandy Nutt, Stephanie. Phone communication, September 19, 2005; e-mails, various dates, 2007–2008.
Bruwelheide, Kari. Personal communications, e-mails, and phone calls, September 2004–2008.
Carr, Lois. Personal communication, August 2005.
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Hughes, Joanna. E-mails, various dates, 2007.
Hurry, Silas. Personal communication, August 2005.
Karas, Vicky. E-mails, various dates, 2007–2008.

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Lavin, Michael. E-mails, various dates, 2006–2008.
Long, Sharon. Phone communication, September 7, 2005.
Luckenbach, Al. Phone communication, October 24, 2005; e-mails, various dates, 2006–2008.
Miller, Henry. Personal communication, e-mails, August 2005–2008.
Owsley, Douglas. Personal communications, e-mails, and phone calls, September 2004–2008.
Riordan, Tim. Personal communication, e-mails, August 2005–2006.

Further Reading and Websites

About the Powhatan Chiefdom

<http://powhatan.wm.edu/>
This website describes the excavation of Werowocomoco, the main village of the Powhatan chiefdom.

Carbone, Elisa. *Blood on the River: James Town 1607*. New York: Viking, 2006.

In this work of fiction, young orphan Sam Collier joins Captain John Smith as they sail to the Virginia colony and work to survive the first winter at Jamestown.

Cooper, Michael L. *Jamestown, 1607*. New York: Holiday House, 2007.

Day, Nancy. *Your Travel Guide to Colonial America*. Minneapolis: Twenty-First Century Books, 2001.

Fridell, Ron. *Forensic Science*. Minneapolis: Lerner Publications Company, 2007.

Friedlander, Mark P., Jr., and Terry M. Phillips. *When Objects Talk: Solving a Crime with Science*. Minneapolis: Twenty-First Century Books, 2001.

Gray, Edward G. *Colonial America: A History in Documents*. New York: Oxford University Press, 2003.

Historic St. Mary's
<http://www.stmaryscity.org/>
This website offers a wealth of information on the history and archaeology of St. Mary's City.

Jamestown Rediscovery

<http://www.apva.org/jr.html>
The website of the Jamestown Rediscovery Project allows visitors to find out about current digs and to get historical information about the founding and inhabitants of Jamestown.

Miller, Brandon Marie. *Growing Up in a New World 1607 to 1775*. Minneapolis: Lerner Publications Company, 2003.

Seeing Jamestown and Werowocomoco
<http://magma.nationalgeographic.com/ngm/jamestown/>

This interactive website has flyovers of Jamestown and the nearby Powhatan village of Werowocomoco, plus photos, games, and expert commentary.

Walker, Sally M. *Life in an Estuary*. Minneapolis: Twenty-First Century Books, 2003.

Written in Bone

<http://writteninbone.si.edu>
This website goes with the exhibit of the same name at the Smithsonian Institution that opens in 2009. It includes an interactive site on the Leamy Neck boy.

AUTHOR'S ACKNOWLEDGMENTS:

This section usually comes after the main text. The author tells the reader the names of people or groups that helped during the research and writing.

AUTHOR'S ACKNOWLEDGMENTS

THIS BOOK WOULD NOT HAVE BEEN POSSIBLE without the help of many scientists and historians. In Jamestown I watched Dr. Carter Hudgins excavate JR1225B's skeleton. Dr. William Kelso told me about the Rediscovery Project and showed me the Captain's skeleton. Catherine Correll Walls and Michael D. Lavin described archival searches and conservation.

At St. Mary's City, Dr. Henry Miller brought me into the brick chapel—under reconstruction at the time—so I could see where the lead-coffin people had been buried. In the laboratory, I touched the smooth surface of the lid of Philip Calvert's wooden coffin. Dr. Tim Riordan explained shrouding and shared stories about graves found in the chapel field. Silas Hurry showed me the lead-coffin lady's silk bow and hauled out the soil peel so I could peek at the grave-shaft stratigraphy. Stephanie Bandy Nutt shared the thrill of the initial discovery.

Also in Maryland, Dr. Lois Green Carr described her archival search for Philip and Anne Calvert and shared her knowledge of colonial planters. Dr. Al Luckenbach and C. Jane Cox of the Lost Towns Project communicated many details on the Leavy Neck boy and his gravesite.

Via e-mail and phone conversations, Sharon Long, Joanna Hughes, and Ivan Schwartz talked me through the artistic processes used to create a facial reconstruction. The sections on isotopes owe their clarity to Dr. Joan Brenner Coltrain. My dentist, Dr. Timothy Duez, and hygienist Kathy Banta brought me up to date on dental issues.

Excavating graves with Doug Owsley's team at Harleigh Knoll was one of the most rewarding experiences of my life. Thanks to John Akridge III for granting us permission to explore this remarkable site. I often sat on the lovely, quiet knoll and imagined what the people whose remains we were uncovering had been like while alive. I want to thank Kari Bruwelheide, Laurie Burgess, Dr. Dana Kollmann, John Imlay, and Dale Brown for putting up with my rusty archaeological skills and Dr. William Hanna for showing me the GPR equipment.

At the Smithsonian, I truly became acquainted with the colonial people featured in this book. I have held the remains of JR1225B, HK7, HK9, the Leavy Neck boy, and Anne Wolsey Calvert and examined in great detail how their bones reflect their lives and deaths. Smithsonian thanks go to Basiliki Vicky

INDEX: This list of the main ideas in the book is followed by page numbers that tell you where to go in the book to find that main idea.

Index

- African ethnicity, 33, 34, 116
age determination of remains, 27–30, 48, 86–87
anemia, 91
archaeology, 4, 9, 133–134
Archer, Gabriel, 51–52
arsenic, 98–99
Association for the Preservation of Virginia Antiquities, 12
- Baltimore, Lord, 68–69, 105
Bandy Nutt, Stephanie, 70–72, 74
Bevan, Bruce, 70, 71
bloodletting, 91
Brown, Dale, 112
Bruwelheide, Kari, 34, 38, 40, 64, 83, 85–87, 90–92, 94, 112–114, 115, 119, 122–123, 128, 130, 132
Burgess, Laurie, 110
burial garments, 103
- Calvert, Anne Wolsey, 106, 107
Calvert, Cecil, 68–69, 105
Calvert, Jane Sewell, 106–107
Calvert, Philip, 105–107
Captain, the, 44–53, 103, 134
carbon isotopes, 40–42, 51–52, 67, 104, 125
Carr, Lois Green, 104–107
Chesapeake region, 5, 7, 10, 131–134
clay, 24, 127, 128, 129, 130
coffins, 21, 45–46, 52, 132. *See also* Project Lead Coffins (at St. Mary's chapel)
computerized tomography scan, 126–127
Copley, Anne, 74–75
Copley, Lionel, 74–75
corn diet, 41–42, 125, 132
Correll Walls, Catherine, 42
- death cause determination of remains, 27, 35, 38, 50, 63–66, 90–92
de Sousa, Mathias, 117, 118
de Zuniga, Pedro, 11
diet analysis of remains, 40–42, 50, 51–52, 132
diffuse idiopathic skeletal hyperostosis, 122–123
Discovery, 51
- embalming, 101–102
ethnic origins determination of remains, 32–35
European ethnicity: skull features, 33, 34
- facial reconstruction, 126–130
farmwork, 119–122
forensic anthropology, 5, 9, 133–134
forensic artists, 126–130
- gamma rays, 77–78
gender determination of remains, 30–32, 89
geographical determination of remains, 32, 40–42, 50, 51–52, 132
Godspeed, 51
Gosnold, Bartholomew, 50–53
graves and cemeteries, 17–21, 23–25, 109
ground-penetrating radar (GPR), 70, 71, 72, 110
- hair analysis of remains, 98–99
Hanna, William, 110
Harleigh Knoll, Maryland: discovered, 108–109; excavation commences, 110–112; HK7, 115–116, 119–120, 123–125; HK9, 112–115, 119–122; HK9A, 113
health issues determination of remains, 39–40, 90–91, 94, 122–123
Henrietta Maria (queen), 69
Historic St. Mary's City, Maryland, 68
Hudgins, Carter, 22
Hughes, Joanna, 127–128
human remains: bone protection and treatment, 36–37; decomposition, 22–25; excavating, 20–21, 23–25, 36–37; forensic analysis, 37–43; measurement in situ, 35; pedastaling skeleton, 25–27
- identity research and determination of remains, 42–43, 50–53, 104–107
Imlay, John, 110
indentured servitude, 58–60, 62, 63, 117, 118, 125
Indian remains, 7
Indians and conflicts with colonists, 18, 35, 42
- Jamestown, Virginia: burial practices, 25–26; church tower remains, 12; death and hardship, 18, 52; founding of James Fort, 11–12, 50, 51
Jamestown Rediscovery Project: artifacts discovered, 14, 15; discovery of James Fort, 13–17; features discovered, 15–16; graves and cemeteries, 17–18, 19; JR1046B (the Captain), 44–53; JR1225B, 20–43; palisade walls, 16–17
Johnson, Gerald, 76