

teaching
STAGE

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**CARRY ON
MR. BOWDITCH**

In this issue:

Page 2

**Life on a Merchant Sailing Ship
Being Indentured**

Page 3

**Almanacs
The American Practical Navigator
Life Two Hundred Years Ago**

Page 4

**Sailor Language Used in the Play
Timeline**

DIRECTOR'S NOTE

When *Carry On, Mr. Bowditch* was read to me in fourth grade, Nathaniel Bowditch became my hero. He was a self-motivated learner, he used mathematics to preserve the lives of his fellow sailors, and he learned to improve the lives of others with his persistent and patient teaching.

I am grateful to the estate of Jean Lee Latham and West Virginia Wesleyan College for allowing me to share Nat's story with elementary, middle, and high students throughout Utah Valley and beyond. We had to condense an entire novel down to a touring play, five voyages down to three, and 24 years of life to 60 minutes. Nevertheless, I believe we have managed to capture the essence of Nat's heroic life.

This true story not only celebrates the value of science, technology, engineering, and mathematics but also models life-long learning and inspires effective teaching. We hope this tale will help a new generation of students who will sail the unknown waters of the future.

Dr. John Newman



Ryan Hopkins as Nat Bowditch

LIFE ON A MERCHANT SAILING SHIP

We may hold romantic images of life aboard a sailing ship. However, the reality was that the life of a sailor was harsh, perilous, and lonely. Sailors went months or years without seeing family or loved ones. On long sea voyages, men were subject to scurvy, a disease caused by a lack of fresh fruits and vegetables. During storms, sailors would live for days in cold, wet clothing. Men could be punished severely if they put the ship in danger by falling asleep on watch or refusing to follow orders. Sailors would work high in the rigging where one misstep meant plummeting to their death. On the high seas, merchant ships were subject to attack by ships from other nations, and a single canon shot to the powder room could blow a ship to pieces.

The wives and mothers of sailors and officers were expected to support the men in their trade without complaint. In the play, Polly Ingersoll is the model of a "Proper Mariner's Wife." Polly encourages Nat to undertake two voyages when she probably would have preferred for him to stay home with her in Salem.



Jessie Pusey as Polly Ingersoll

BEING INDENTURED

At the beginning of the play, twelve-year-old Nat is indentured as a book-keeper for a ship chandlery for nine years, until he is twenty-one years old. Unlike slaves, indentured servants like Nat were housed, clothed, and fed in a humane way and were eventually set free. The trade-off for the employer's support was that punishments for breaking the law or breaking the indenture were harsh, often adding to the time of the indenture.

Many immigrants came to America during the 1600's as indentured servants. The trip to the colonies was very expensive and risky, and indentured servitude offered a promise of housing and work when they arrived. As more indentured servants earned their freedom and the price of indentured servants was raised, rich plantations owners turned to the slave trade for cheap labor. In the late 1700's, families like Nat's who had fallen on hard times often indentured their children when they could not feed, house, or train them on their own.

Once the United States had gained its independence, immigrants came from other European countries to begin a new life and pursue what was becoming known as the "American Dream." In the play, Lupé Sanchez came to America looking for a better life. By learning navigation, Lupé was able to become an officer and had the potential to marry the love of his life.



Carter Walker as Lupé Sanchez



Trevor Williams as
Dr. Bentley

ALMANACS

At the age of sixteen, Nat used his knowledge of mathematics to create his own almanac. In the play, he modestly declares that his almanac will have all the expected features: the sun's rising, setting, declination, and amplitude as well as the position of the moon at any given date and time. Almanacs like Nat's were the kinds of books that were used in "book sailing."

Today, most Americans would be familiar with *The Old Farmers' Almanac*, readily available in garden stores. This annual almanac contains information on weather, astronomy, fishing, and gardening, including suggested dates for planting and harvesting. It includes accurate predictions of frost dates and long range weather forecasts for the season with about 80% accuracy. While today we rely on daily weather forecasts based on satellite imagery and computer models, farmers, gardeners, and sailors still rely on the mathematical calculations of *The Farmers' Almanac*.

THE AMERICAN PRACTICAL NAVIGATOR

In the play, we see Nathaniel Bowditch determining to write his own sailing book, which becomes known as *The American Practical Navigator*. Nat rightly feared that once he completed his ambitious book, it would be widely dismissed because it was written by an American who had never attended college.

The book was first published in 1802 and proved immediately popular. It provided almanac tables that Nat triple-checked in order to be sure that the numbers were accurate. It also included definitions of every sea term in language that any common sailor could understand. The book ensured that every member of a crew of twelve could calculate their longitude by "taking a lunar."

The American Practical Navigator is still published annually with Nathaniel Bowditch credited as its author. It is found on board every ship in the United States Navy. Over time, modern editors have expanded the book to include principles of piloting, electronic navigation, astronomical navigation, mathematics, safety, oceanography, and meteorology.



Kristopher Miles as
Captain Prince

LIFE TWO HUNDRED YEARS AGO

The lives of children in the late 1700's and early 1800's were a lot harder than the lives of young people today. Children often had to abandon school to learn a trade or work to help support the family. Upper class children had the luxury of private tutors, while lower class children, if they were fortunate, would be able to attend a common school like the one that Nat attended in Salem.

Children were given substantial chores starting at four years old. Girls worked in the home while boys worked outside of the home. They would work from dawn until dusk, not only because of the need of natural light but because of the belief that idleness was a sin. Though it was rare that children had a break in work, when they did, they would play with a hoop and stick, marbles, and corn husk dolls. Children also played tag and leap-frog.

Girls between the ages of nine and twelve started to learn the duties of a wife. When necessary, they often would replace a deceased mother and take care of the household. Sixteen was the average marrying age for a young girl. Life expectancy between 1750 and 1800 was about 36 years, compared to 78 years today.



Shelby Gist as
Elizabeth Bordman

SAILOR LANGUAGE USED IN THE PLAY

BECALMED: Still in the water, going nowhere.

BOW: The front of the ship.

CHANDLERY: A warehouse and store for ship supplies.

CROW'S NEST: A platform on top of a mast that is used by a sailor who is assigned to be the "lookout."

EXPECTATION: A paper purchased from a sailor on a privateer that entitles the purchaser to a share of the profit if the privateer captures another ship and if the sailor returns alive.

INDENTURE: A contract by which a person binds himself as an apprentice for a certain amount of time.

LUBBER: A stupid or unskilled sailor.

LARBOARD, OR PORT: The left side of the ship.

MARLINE SPIKE: A tool to break open a knot or help untie rope.

PARALLEL RULERS: A tool to help navigators draw parallel lines on a map.

PRIVATEER: An armed ship, privately owned and manned, that was commissioned by a government to fight, harass, and capture ships from enemy nations.

RUDDER: A blade on the bottom of the ship, controlled by the ship's wheel, that steers the course of the ship.

SAIL BY ASH BREEZE: To succeed by one's own will.

SAIL BEFORE THE MAST: Serve with the common sailors, who would bunk in the ship's bow in front of the sails.

STERN: The back of the ship.

SEXTANT: A tool used to determine latitude and longitude at sea by measuring the angle between the sun, moon, or stars from the horizon.

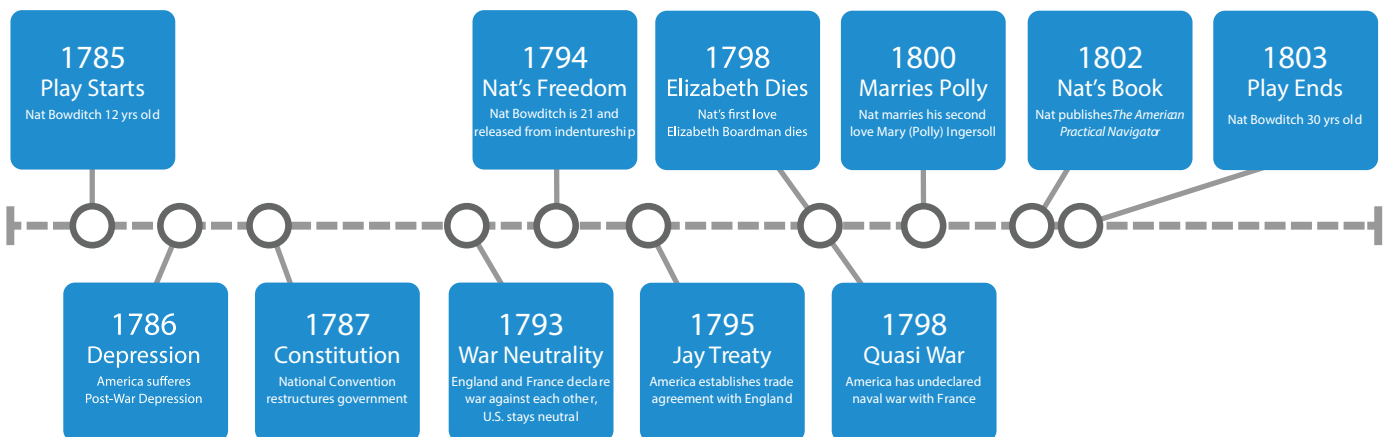
STARBOARD: The right side of the ship. The ship's crew was divided into the "Starboard Watch" and the "Larboard Watch."

SWALLOW THE ANCHOR: Retire from going to sea.



Spencer Rice as Johnny Gorman

TIMELINE



CREDITS

Teaching Stage is published by the Noorda Theatre Center for Children and Youth at UVU. This issue was edited by Dr. John Newman and includes material provided by the actors in the ensemble of *Carry On, Mr. Bowditch*: Shelby Gist, Ryan Hopkins, Kristopher Miles, Jessie Pusey, Spencer Rice, Carter Walker, and Trevor Williams. Costume sketches by Melissa Howarth