

THE WARBLER

AN EDUCATIONAL WEEKLY

ISSUE

91

JANUARY 5, 2022

Dear Teachers and Creators,

Throughout history, boats have been used by humans in a variety of ways. In one aspect you have the functionality. You can look at a **ship** and say that it's just a really big boat, but although a ship is in fact a very big boat, ships play a predominant role in the global economy. Almost our entire economic infrastructure relies on ships. We saw how dangerous this could really be when the Suez Canal got blocked by a ship that got stuck in it. Our imports come in on ships, and our exports go out on them. A global economy would simply not be possible without ships. Not only have ships played major roles in globalization, they have also allowed for the transportation of enslaved persons, colonization of indigenous lands and communities, and European exploration.

We also find it so amazing that people were able to figure out how to make themselves travel on a giant vessel using only the power generated by the wind. If they made one mistake in the positioning of the sails, they could easily have been led off into the middle of the ocean with no destination in sight. It's even more unfathomable if you think of the fact that they thought the world was flat and that you could just fall off of it. Ships are exemplary of the human desire to explore. Even though we like to think that we've seen everything, we have yet to explore all but a tiny fraction of the ocean. Even though space is the final frontier per se, we have yet to truly explore the largest frontier on our planet. For this exploration, we've seen boats be modified into submarines so that we can navigate under water. Now we're even having to develop ships capable of functioning and protecting people under immense amounts of water pressure if we hope to catch a tiny glimpse of what lies at the bottom of the ocean. People have very limited physical capability, but we are capable of manipulating our environment to produce massive products that help us explore our environment with ships being an example of this. I hope you enjoy this week's edition of *The Warbler* and learn a little bit about one of the most monumental human inventions of all time.

Taylor and the APAEP Team

“A community is like a ship; everyone ought to be prepared to take helm.”

HENRIK IBSEN // Norwegian playwright

WORDS INSIDE

FOUND INSIDE “THE *EVER GIVEN* AND THE PHYSICS ...”

hydrodynamics | branch of science concerned with forces acting on or exerted by fluids

waterway | a river, canal, or other route for travel by water

buoyancy | the ability or tendency to float in water or air or some other fluid

FOUND INSIDE “O CAPTAIN! MY CAPTAIN ...”

exult | feel or show triumphant elation or jubilation

trill | a quavering or vibratory sound, especially a rapid alternation of sung or played notes

grim | forbidding or uninviting



PHYSICS

The *Ever Given* and the Physics of Big Ships Clogged the Suez Canal

BY MARGAUX LOPEZ | *Massivesci.com* | March 28, 2021

Squeezing big hardware through tight spaces is not a new problem. While some attempts are more ambitious than others, it's also not really a story until something gets stuck.

Similarly, piloting giant container ships through Egypt's relatively narrow Suez Canal is an unexciting daily occurrence, even for ultra-large ships like the *Ever Given* that are too big to fit through the Panama Canal. On average, more than 50 ships a day navigate this route without incident, and without making headlines. Unfortunately, the *Ever Given* is now firmly wedged across the full span of the canal, making it both a problem and an interesting story.

As shipping companies look to increase economies of scale by transporting more containers at once, they are building bigger and bigger ships. Part of this new generation, the *Ever Given* is a veritable giant compared to older models, able to carry the equivalent weight of 1,600 Statues of Liberty across the ocean. It measures 400 meters in length, the currently accepted engineering maximum for cargo vessels partially due to docking availability at ports and partially due to the large bending stress that occurs along the length of the ship in extreme weather. In order to increase container capacity, ships have gotten wider. That's fine on the open ocean, but navigating through the fixed width of a canal becomes more difficult as the ship extends closer to the banks.

The hydrodynamics of large vessels get even more complicated in a shallow waterway like a canal. Instead of simply getting pushed deeper into the ocean, the enormous amount of water displaced by the ship has to squeeze between the ship's hull and the sandy floor and sides of the waterway. This causes the vessel to move in unintuitive ways.

A similar phenomenon known as the "bank effect" happens along the edge of a shallow waterway. When the gap along the side of the ship gets smaller, the displaced water squeezing between the ship and the bank speeds up as it rushes by, moving significantly faster at the stern compared to the bow of the ship. Faster water means lower pressure, and as a result the stern of the ship gets pulled in towards the bank while the bow is pushed out and away.

So, hydrodynamics were not in favor of the colossal *Ever Given* as it traveled north through the decidedly small Suez Canal on March 23.

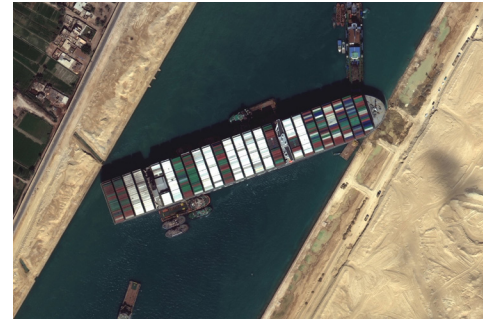
Many ideas have been tossed around, but in order to figure out how to refloat the *Ever Given*, we need to understand how huge steel boats actually manage to float when they're not lodged in the banks of a major shipping artery. The short answer is buoyancy, or the force exerted on an object when immersed in a fluid. Boats displace water, sinking down until the amount of water they've displaced has a weight equal to the boat's weight. When a ship runs aground, increasing buoyancy in order to sail away requires either decreasing the total weight or increasing the amount of water around the ship. That second part can be accomplished by taking away sand (i.e. dredging), or by relying on natural events like a high tide.

With some quick back-of-the-napkin math, *WIRED* estimated that 25,000 tons of cargo would need to be removed from the *Ever Given*, or the equivalent amount of water added around the ship, in order to raise it by ~1 meter.

25,000 tons of cargo is about ten Olympic swimming pools of water, or an estimated ~600 shipping containers. In terms of cargo, the easiest things to remove from the ship are ballast water and fuel.

The main strategy has been focused on making room for more water around the ship. Since the event, dredgers have been working to remove sand and mud from the bow of the ship in an effort to refloat it.

The physics is clear: as cargo ships become wider, the margin for error when sailing through shallow waterways like the Suez Canal becomes much smaller. Larger ships displace more water and have less of a gap between the hull of the ship and the walls and floor of the canal, increasing the squatting and bank effects and making the pilot's job even more difficult than it already is. While blockages of this scale have until now been few and far between, ships are still getting bigger and eventually physics will catch up with them. ●



The *Ever Given* stuck in the Suez Canal (above) and on the open ocean, on a better day (below)

Photos by NOAA via Wikimedia

● Edited for space and clarity

BIOGRAPHY

Robert Smalls | Civil War Hero and Congressman

BY PATTI WIGINGTON | *ThoughtCo.com* | December 4, 2018

Enslaved from birth in 1839, Robert Smalls was a sailor who self-liberated and changed the course of history during the Civil War. Later, he was elected to the House of Representatives, becoming one of the first Black members of Congress.

Early Years

Robert Smalls was born on April 5, 1839 in Beaufort, South Carolina. His mother, Lydia Polite, was an enslaved person forced to work in the house of Henry McKee. At some point during his teen years, he found work on the docks in Charleston's harbor, and he worked his way up from longshoreman to rigger, and eventually to the position of sailmaker by the time he was seventeen. Eventually, he struck a deal with his enslaver, which enabled him to keep his earnings of approximately \$15 per month.

When war broke out in 1861, Smalls was working as a sailor on a ship called the *Planter*.

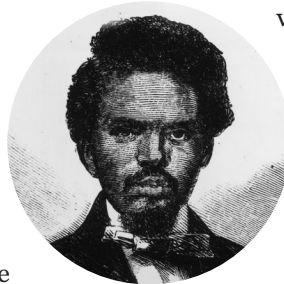
Path to Freedom

Smalls was an accomplished sailor, and was extremely familiar with the waterways around Charleston. In addition to being a sailor on the *Planter*, he sometimes worked as the wheelman—essentially, a pilot, although he was not allowed to hold that title because of his enslaved status. A few months after the Civil War began in April 1861, he was given the task of steering the *Planter*, a Confederate military ship, along the coast of the Carolinas and Georgia, while Union blockades sat nearby. He worked diligently at this job for nearly a year, but at some point, he and other enslaved crew members realized they had an opportunity to self-liberate: the Union ships in the Harbor. Smalls began to craft a plan.

In May 1862, *Planter* docked in Charleston and loaded up several large guns, ammunition, and firewood. When the officers on the ship disembarked for the night, Smalls put on the captain's hat, and he and the other enslaved crewmen sailed out of the harbor. They stopped along the way to pick up their families, who were waiting nearby, and then headed straight to the Union ships, with a white flag displayed in place of the Confederate banner. Smalls and his men immediately surrendered the ship and all of its cargo to the Union Navy.

Thanks to his knowledge of the Confederate ships'

activities in Charleston Harbor, Smalls was able to provide the Union officers with a detailed map of fortifications and underwater mines, as well as the captain's codebook. This, along with other intelligence he provided, soon proved Smalls to be valuable to the Northern cause, and was quickly hailed as a hero for his work.

**Fighting for the Union**

After Smalls surrendered the *Planter* to the Union, it was decided that he and his crew should be awarded the prize money for the ship's capture. He was given a position with the Union Navy as the pilot of a ship called *Crusader*, which scoured the Carolina coast finding mines that Smalls had helped place when aboard the *Planter*.

In addition to his work for the Navy, Smalls traveled periodically to Washington, D.C., where he met with a Methodist minister who was trying to persuade Abraham Lincoln to allow Black men to join the Union Army. Eventually, Secretary of War Edwin Stanton signed an order creating a pair of Black regiments, with five thousand Black men enlisting to fight in the Carolinas. Many of them had been recruited by Smalls himself.

Political Career

During his life in Beaufort, Smalls became involved in local politics, and served as a delegate to the 1868 South Carolina Constitutional Convention in the hopes of making education free and mandatory for all children in the state. That same year, he was elected to the South Carolina House of Representatives, working tirelessly for civil rights.

By 1873, Smalls had his sights set on more than just state politics. He ran for office and was elected to the United States House of Representatives, where he served as the voice of residents of South Carolina's predominantly Black coastal region.

Smalls regained his political footing shortly thereafter, however. He served as a delegate once more to the 1895 South Carolina constitutional convention, where he fought against White politicians who aimed to disenfranchise his Black neighbors with questionable voting laws.

In 1915, at the age of 75, Smalls passed away from complications of diabetes and malaria. A statue was erected in his honor in downtown Beaufort. ●

“If a ship is strong, the ocean's tides do not bother it.”

MATSHONA DHLIWAYO //
Zimbabwean-born and Canadian-based philosopher, entrepreneur, and author

● Edited for space

#181 PUZZLE NO. 6199334

#182 PUZZLE NO. 269656

						4	7	
9			2	4			5	
1	4		5				3	
								7
		5		8	6			
3		2		9				
					4	1		2
2					3			
				5		6		

4

- 1.** Each block, row, and column must contain the numbers 1–9.
- 2.** Sudoku is a game of logic and reasoning, so you should not need to guess.
- 3.** Don't repeat numbers within each block, row, or column.
- 4.** Use the process of elimination to figure out the correct placement of numbers in each box.
- 5.** The answers appear on the last page of this newsletter.

What the example will look like solved

2	4	8	3	9	5	7	1	6
5	7	1	6	2	8	3	4	9
9	3	6	7	4	1	5	8	2
6	8	2	5	3	9	1	7	4
3	5	9	1	7	4	6	2	8
7	1	4	8	6	2	9	5	3
8	6	3	4	1	7	2	9	5
1	9	5	2	8	6	4	3	7
4	2	7	9	5	3	8	6	1



“If the highest aim of a captain were to preserve his ship, he would keep it in port forever.”

THOMAS AQUINAS // Italian philosopher

Icons from the Noun Project

DID YOU KNOW?

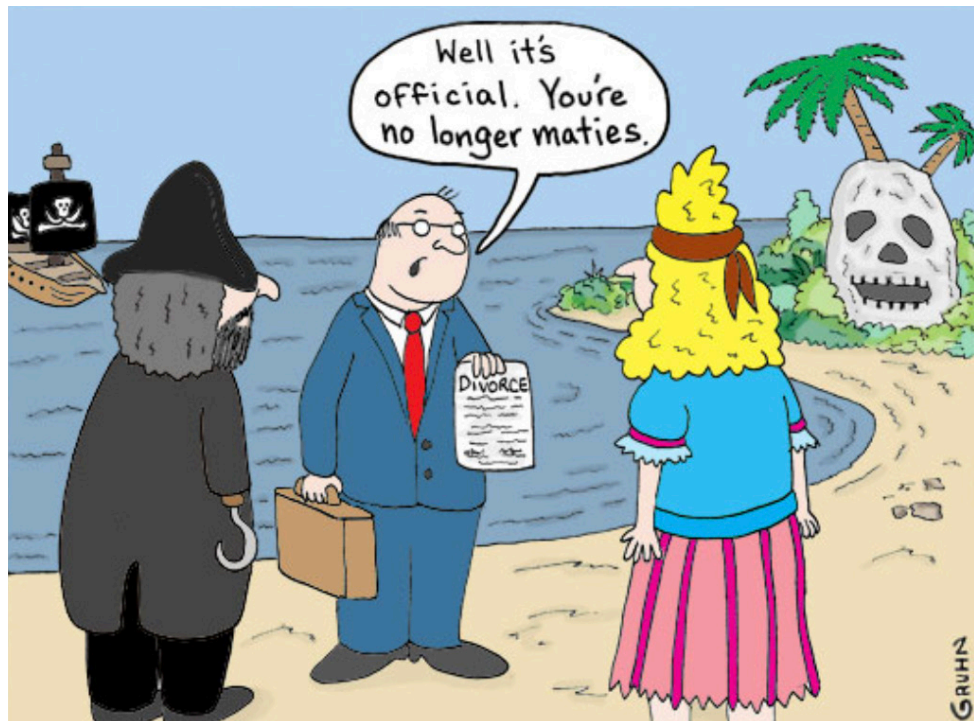
The world's largest and most expensive sailing boat — Superyacht measures **468 ft in length** and has masts over 300 ft high. It cost its Russian billionaire owner a measly \$295 million USD — an upgrade over his previous ride, which was only worth \$215 Million.

An old **abandoned Russian cruise ship** has been roaming international waters since 2013.

In 2005, a tour bus driver for the Dave Matthews Band released the bus' **septic tank** over a grate above the Chicago River. A boat full of sightseers was below at the time, and its passengers were covered with 800 lbs. of human waste.

During WW2, a Dutch warship was **disguised as a tropical island** to escape detection by the Japanese. It was the only ship of its class to survive.

Source: www.anyboat.com.au/blog/20-interesting-facts-about-boats-and-boating/



“There is no greater unknown than the sea and no greater mystery than a lost ship.”

CLIVE CUSSLER // American novelist

“Ships at a distance have every man's wish on board.”

ZORA NEALE HURSTON // American folklorist, novelist, short story writer, and Civic Rights advocate

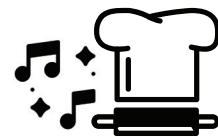
Idiom

“Shiver me timbers”

Meaning Oh My!

Origin The *Oxford English Dictionary* defines “shiver my timbers” as “a mock oath attributed in comic fiction to sailors.” Its earliest example is from Captain Frederick Marryat's 1835 novel *Jacob Faithful*, in which a character says, “I won't thrash you Tom. Shiver my timbers if I do.” A pirate novel or movie likely contributed to the phrase's association with pirates.

Source: chicagotribune.com



THERE IS A ROYAL NAVY SUPERSTITION THAT **WHISTLING** ON A SHIP CAN SUMMON STRONG WINDS. TRADITIONALLY, THE ONLY PERSON ALLOWED TO WHISTLE IS THE SHIP'S COOK, AS IT MEANS THEY ARE NOT EATING THE FOOD.



ART + CULTURE

O Captain! My Captain!

BY WALT WHITMAN

O Captain! my Captain! our fearful trip is done,
 The ship has weather'd every rack, the prize we sought is won,
 The port is near, the bells I hear, the people all exulting,
 While follow eyes the steady keel, the vessel grim and daring;
 But O heart! heart! heart!
 O the bleeding drops of red,
 Where on the deck my Captain lies,
 Fallen cold and dead.

O Captain! my Captain! rise up and hear the bells;
 Rise up—for you the flag is flung—for you the bugle trills,
 For you bouquets and ribbon'd wreaths—for you the shores a-crowding,
 For you they call, the swaying mass, their eager faces turning;
 Here Captain! dear father!
 This arm beneath your head!
 It is some dream that on the deck,
 You've fallen cold and dead.

My Captain does not answer, his lips are pale and still,
 My father does not feel my arm, he has no pulse nor will,
 The ship is anchor'd safe and sound, its voyage closed and done,
 From fearful trip the victor ship comes in with object won;
 Exult O shores, and ring O bells!
 But I with mournful tread,
 Walk the deck my Captain lies,
 Fallen cold and dead.

Walt Whitman was born on May 31, 1819, in West Hills, on Long Island, New York. Early in his career, Whitman worked as an editor, a schoolteacher, and then turned most of his attention to being a freelance journalist. However, by the spring of 1855 Whitman sought to publish his first collection of innovative prose-poem style for a first volume of *Leaves of Grass*. Unable to find a publisher, he sold a house and printed the first edition of *Leaves of Grass* at his own expense. After the start of the Civil War in 1861, Whitman dedicated himself visiting and aiding wounded soldiers in Washington hospitals. Later on in life, Whitman suffered a series of ailments, notably a stroke in 1873 that partially paralyzed him. In 1892, Whitman died shortly after publishing his ninth revised edition of *Leaves of Grass*.

WRITING PROMPT

"O Captain! My Captain!" is one of Whitman's most famous poems eulogizing the death of Abraham Lincoln. While one of four poems that Whitman composed about the tragedy, this poem reached popularity through Whitman's use of the extended "ship of state" metaphor. While only one example, great persons or events and their impact on us can be an excellent source of inspiration for creative works. This week, reflect on a person who has been influential in your life as the basis for a poem, short story, or creative non-fiction essay.

Word Search

E	O	E	E	D	N	R	A	E	D	H	T	L	A
F	L	N	E	L	V	N	D	E	V	N	P	G	A
S	U	T	R	C	E	D	H	E	T	T	G	O	A
I	F	A	R	H	S	M	A	R	R	V	D	H	R
D	N	E	B	D	S	P	E	E	E	L	C	S	E
D	R	D	E	O	E	A	N	H	A	E	A	R	D
A	U	E	L	E	L	F	E	T	D	H	P	I	A
I	O	E	C	F	E	H	E	A	D	H	T	A	L
R	M	S	H	I	P	H	K	F	E	D	A	D	S
A	M	F	D	R	E	M	H	O	D	E	I	E	C
A	E	T	B	U	G	L	E	E	E	F	N	C	F
U	I	D	F	L	L	U	I	E	A	D	C	K	H
F	U	N	A	D	R	D	U	E	D	H	H	R	A
C	U	N	A	E	B	E	U	N	E	A	A	D	L

TREAD
 SHIP
 HEAD
 BUGLE
 VESSEL
 CAPTAIN
 DEAD
 DECK
 MOURNFUL
 FATHER

CRAFT

Ships In A Bottle Still Fascinate

BY DEBORAH SCANLON | *Cape News* | April 5, 2019

Models of ferries, yachts, research ships, military vessels and watercraft of all types will be on display as Woods Hole Historical Museum hosts its 12th biennial Model Boat Show April 13 and 14. While some of these model boats are up to 12 feet long, others are so tiny they can be slipped into light bulbs, creating the fascinating display of ships-in-bottles that will be found in Woods Hole Community Hall, one of six Model Boat Show venues in the village.

Since 1998, Alex Bellinger of Newburyport has been showing his ships-in-bottles at the Woods Hole show. While he is more likely to display his smallest models in glass ornaments because they are a little sturdier, he says light bulbs are popular with many ship-in-bottlers. “They are inexpensive, readily available and have excellent clarity.”

His preference, though, is to “go bigger, not smaller.” Miniatures are popular with many ship-in-bottlers, but he likes the idea of a model “that will go on the mantel and can be enjoyed from across the room as well as up close.”

As with many of the boat show exhibitors, he has stories to tell, and philosophy to share.

“A good ship in a bottle is like a cross between a fine scale model and a spirited sketch or painting. If successful, the ship-in-bottle will intrigue with the quality of detail of the first, and inspire with the immediacy of the second.”

He added that “It gives great personal satisfaction, and by now, I’ve been doing it so long I have no idea what I would do with myself if I did not do this.”

“My wife Christina and I disagree on how many people still believe the bottle is cut open for the model. I often hear the joke about ‘hiding the seam’ but most people are confident they know how it’s done usually say, ‘You just pull the string.’ Christina thinks it’s still about one out of two who believe the bottle must be cut. Having explained the techniques so often, and heard my colleagues do so, I frequently think everyone must know how it’s done by now. Ship-in-bottlers do not make any secret out of it.”

While Mr. Bellinger has been building boat models since he was a child, and can easily explain the intricate process of building them, he admits he really doesn’t know what has inspired him to undertake a project that might take 600 hours.

He said he put his first boat in a bottle in 1964. “After the usual adolescent hiatus into less productive activities, I picked it up again in college and started keeping

records then. I just finished model number 136. Most, but not all, are in bottles. The first models would take a few evenings to complete. Now few are ever done in less than 100 hours.” He explained that the newer models take longer now because they are more ambitious, either in size, detail or technique. “Like most of us, I was more easily satisfied when I was younger.”

As for the origins of the craft of putting ships in bottles, Mr. Bellinger said it is vague, but must have coincided with the mass production of inexpensive clear glass bottles. He said he has read “the first craftspeople putting objects in bottles were from Saxony, and it was religious and secular scenes they chose to preserve in the bottles, not ships. Recreating objects difficult to bottle, such as fan, swifts and wooden puzzles, was also popular. Early in the 19th century there are literary references to ships in bottles, but it is in the latter half of the century that they really became a widely practiced sailor’s art.

Despite the idea that it is an art lost, putting ships in bottles is very much alive. Mr. Bellinger said he regularly communicates “with men and women who are building wonderful models throughout the US, Europe and as far as Russia.”

Mr. Bellinger spent his career as a bookstore manager, mostly in Boston; his wife was a university librarian. They are both retired now.

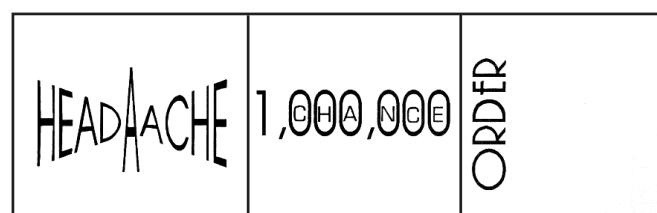
At the boat show he looks forward to connecting with a fellow ship-in-bottler, Gerry Ross of Mashpee, who has demonstrated and taught creating ships in bottles at the Woods Hole Historical Museum over the years. ●



A fully rigged sailboat inside a Christmas ornament by Alex Bellinger

● Edited for space

WORD PLAY A Rebus puzzle is a picture representation of a common word or phrase. How the letters/images appear within each box will give you clues to the answer! For example, if you saw the letters “LOOK ULEAP,” you could guess that the phrase is “Look before you leap.” *Answers are on the last page!*



HISTORY

The Most Famous Pirate Women in History

Although being a pirate has generally been a male occupation, some female pirates have also made a name for themselves in the profession.

BY MUHAMMAD SAKHAWAT | Medium | January 26, 2021

The existence of piracy is very old in history. Homer also mentions it in the Iliad and Odyssey. Even in Roman times, pirates looted merchant ships, but this increased when the Spanish government returned silver-laden ships after the discovery of the United States.

Pirates used to loot these ships. At that time their refuge was the islands of the West Indies and there were also many uninhabited islands where they would stay for a while and then return to the sea.

The British and other European governments forcibly recruited young people and treated them cruelly. Therefore, there were revolts in the ships and the rebels captured the ship and became pirates.

Although their lives were in danger and they were guilty of the law, once they became pirates, their return was not possible. Among the pirates are women who became pirates in masculine disguise.

We do not know of any other women in history except a few, but it is a historical fact that as a result of the oppression they suffered as women, they preferred to live as men.

Although being a pirate has been a common occupation for men. However, some female pirates also made a name for themselves in the profession. The rule was that women and boys were not allowed on board. Instead, a contract was written for the ship, which was signed by all the crew, so that no woman or boy would be taken on board.

Because women were not allowed to travel on ships, some women would be able to enter ships in the guise of men and with male names.

The world's most famous pirate women, Mary Read and Anne Bonny, also dressed in men's clothing and costumes, boarded pirate ships and became part of their gang.

One of the world's greatest pirates was Captain Calico Jack. These two women were part of his group in the guise of men. Pirates were very cruel. Controlling them at sea was not an easy task even for governments. There came an era called the golden age of piracy. This period was from about 1650 to 1720. In those days many men would leave their homes and go to distant lands by sea to earn a living. In this way, only women had to adopt the traditional role of men. Similarly, society was forced to give the right to raise

its family in the masculine role of women. Women have to be given the right to do business.

Women opened inns on the highways and even started running bars. Even in small seaport towns in many maritime areas, widows would take up the occupations of their late husbands so that they could run their households financially and take care of their children.

In this way, women would get economic freedom



and they would be able to do business relatively freely. The women also became involved in buying and selling items obtained from the pirates' piracy.

Such a relationship led to mutual cooperation, and these women sometimes rescued their client pirates from government officials and even the police on the basis of a long-standing relationship.

Some women even married pirates because they were often rich because of looting. As a result of associating with pirates, some women would join them and become pirates themselves. In those days women were considered a sign of bad luck.

Therefore, the pirates would not agree to take them on ships under any circumstances. The second was that the pirate women would get involved with each other and even turn to murder.

Under these circumstances, pirates would not take women onboard their ships. Women disguised as men entered pirate ships and joined them as men. Two well-known female pirates, mentioned above, disguised as men and joined the group of the famous pirate Captain Calico Jack. The story of both of them, Mary Read and Anne Bonny, is amazing.

Irish pirate Anne Bonny and English pirate Mary Read are some of the most famous female pirates in history.

ANNE BONNY | Bonny was born in Ireland in 1700. When she was young, she came to London from there. She was the daughter of a maid named Mary Brennan. It was owned by William Cormac, a lawyer. He fell in love with his maid, which led to the birth of Bonny. When his wife found out, she sniffed at her husband's nose. That's why he left his hometown of London. He brought Bonnie and her mother with her. From the beginning, he dressed Bonnie in men's clothes so that no one would know she was a girl.

As a result of quarrels with his wife, he moved to Carolina, USA, with his daughter and her mother, Brennan. There, too, he began to practice law and prospered. Bonnie was uneducated and often quarreled with other girls at school.

Her habits were prone to crime, even she stabs a girl during an argument. Bonny was handsome and free-spirited, so she had no interest in housework. She fell in love with an ordinary pirate named James. Under these circumstances, her father kicked her out of the house and deprived her of his property. She was a hateful and fearless woman. Leaving home, she and her husband arrived in New Providence, a pirate stronghold.

There she became acquainted with many pirates. But her husband, James, began spying on the pirates there, so Bonny started to hate him. Meanwhile, Bonny befriends a young John Rackham (commonly known as Calico Jack), a budding pirate.

Bonnie left her husband and went with John Rackham. Then they formed their own group and started looting the ship called 'Revenge'. During this time, Bonnie became pregnant with John Rackham. He then settled Bonny in Cuba, where she gave birth to a baby boy.

Bonny lived with Jack and her gang in robberies and looting. Bonny was named in a list of fugitive pirates released by the Jamaican governor.

In 1720, Governor Jamaica's troops raided and captured all of them on the ship of John Rackham. Expect Bonny and her partner, Mary Read, all were hanged. Both women were not hanged when they were pregnant. Bonnie's subsequent history is rare.

MARY READ | Mary Read was born in England in 1685. Her mother raised her as a boy from an early age. From an early age, she was dressed as a boy. The reason she was raised as a boy was that her mother knew that inheritance was given only to boys and not to girls.

Then, as a boy, she enlisted in the British Army. She then married, but after the death of her husband, she moved to the West Indies in 1720, where she met Bonny and joined Jack's gang.

She was accustomed to men's clothing. Along with Bonny, she also wore masculine attire despite being a girl. When Bonny told Mary that she was actually a woman, Mary told her her secret.

In this way, their mutual friendship and closeness increased a lot. On November 15, 1720, when his ship

was raided at the behest of the Governor of Jamaica, John, and his companions were drunk and unconscious.

Mary and Bonny rescued the ship but were all captured. The two women appealed for mercy as they were pregnant and were pardoned. John and all his male companions were executed. Mary died of a high fever, and Bonny's history also ends here.

Although our information about the two women who became pirates is incomplete. But it also shows that women have a strong sense of adventure. She faces dangers and adversity to live a free life. This is the passion that is changing the lives of women. ●

Edited
for space

RANDOM-NEST



Different Parts of a Ship and Their Function

BY AMANDA BRINEY | Information taken from ThoughtCo | 2020

1) Anchor An anchor is a heavy metal piece attached to the chain cables and is stored or secured in the hose pipe during the voyage / ship operation. It can be either permanent or temporary with an additional sub class of sea anchors.

2) Bow A bow is the front most part of a ship which cuts the water along its sides as the ship proceeds. The key two requirement for a bow is to have; minimum drag possible or so-called resistance between the water and the ships hull and must be tall enough to avoid water splashing to easily on top of it.

To reduce similar negative forces on ships body, bow are placed on ship assisting easy propulsion.

3) Bow Thrusters A bow thruster is a propeller like device fitted on both side of ships bow. It is used to increase the maneuverability of a ship in congested waters under very slow speed like that in canals or near ports.

4) Deck A deck is a floor or covering to the ships hull structure. A ship can have different decks at different section or parts of ship; namely upper and lower deck or deck 1, deck 2 and deck 3 in a sequential downward way. What it means is that; the topmost deck exposed to weather is called main deck or weather deck.

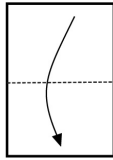
5) Hull A hull is that part of ship that extends below the waterline to cover and protect water from getting in. You can consider it as the shell which protects the inside treasures from outside environment.

6) Keel A keel is a part of ships hull that is responsible for providing strength to the ships structure; spreading stress and load equally along its longitudinal sides.

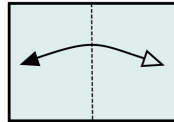
7) Freeboard A freeboard stands for the part of ships hull located above the waterline. It is the distance between the upper deck of ship and the point of waterline. The freeboard of a ship is not fixed but rather depends on the amount of cargo it carries.

Edited for Space

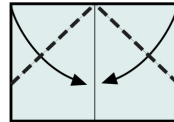
HOW TO ... ORIGAMI BOAT



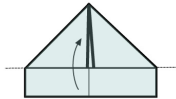
Fold paper in half



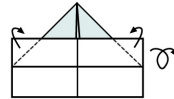
Now fold in half and unfold to make a crease



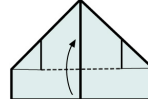
Fold top corners to the center



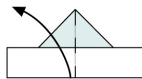
Fold the bottom strip upwards



Fold corners backwards. Turn over



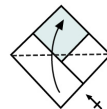
Fold bottom strip upwards



Open



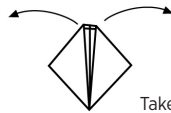
Opening in progress



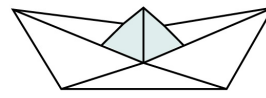
Fold triangle upwards. Repeat behind



Open (like previous steps)



Take upper corners and stretch out



SHIPS AHOY!



WORDS OF ENCOURAGEMENT

Being the original vehicle, ships have a wealth of instances operating as protectors and guides in our history and in literature; a 7,000-year-old seagoing boat made from reeds and tar has been found in Kuwait and boats have been an important feature in stories as far back as the Summerian tale of the building of Noah's Ark. Yet one of the most famous sea voyages still remains Homer's epic poem *The Odyssey*, the tale of the Odysseus's 10-year trek back to his family after the Trojan War. Although a Greek hero and war winner, still Odysseus remains beaten by the elements since his angering of the sea god, Poseidon, and therefore becomes an often unstoppable force against Odysseus's desire for home. However, Odysseus's ship bears brunt after brunt of these attacks to anchor Odysseus to his mission and provide a guiding force to him. From this story, comes Alfred, Lord Tennyson's poetic reinterpretation of Odysseus's journey, stating, "One equal temper of heroic hearts, / Made weak by time and fate, but strong in will / To strive, to seek, to find, and not to yield."

Tennyson's quote and the imagery of ships reminds us to find those grounding forces in our life that solidify us against the chaos and uncontrollable hardships of life; to seek out what pushes us forward in our journeys of self-discovery and education and stay firmly at the helm of whatever that is. We hope that you enjoyed this edition of the *Warbler* and wish you all the best in your journey.

Julia



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Answers

SUDOKU #181

4	6	3	8	2	7	9	5	1
2	9	7	5	4	1	6	3	8
1	5	8	3	6	9	2	7	4
3	8	5	1	9	6	7	4	2
6	7	2	4	5	8	1	9	3
9	4	1	7	3	2	5	8	6
8	1	9	6	7	3	4	2	5
7	3	4	2	1	5	8	6	9
5	2	6	9	8	4	3	1	7

SUDOKU #182

5	2	8	6	3	9	4	7	1
9	3	7	2	4	1	8	5	6
1	4	6	5	7	8	2	3	9
6	8	4	3	2	5	9	1	7
7	9	5	1	8	6	3	2	4
3	1	2	4	9	7	5	6	8
8	5	3	7	6	4	1	9	2
2	6	9	8	1	3	7	4	5
4	7	1	9	5	2	6	8	3



Rebus Puzzle Page 7

1. A splitting headache
2. One chance in a million
3. Side order

Send ideas and comments to:

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UNTIL NEXT TIME !