

IT ISNT OVER 'TIL IT'S OVER

In the first half of the 19th century, sailboat racing was starting to flourish in the large cities on the East Coast. The competitors were nouveau riche types that liked to gamble for high stakes.

Overlaying American life, was an inchoate desire to surpass the efforts of their mother countries, particularly England. Our young country had a population of 23 myn., of whom 15% were slaves. England and Scotland together counted 18 myn. The British under Queen Victoria were strong and confident leaders of the world with supporting colonies in Canada, South Africa, Australia, India, etc. And among their strengths was sailboat racing, which was a natural offshoot from their dominance of the seas, both in war and in peace. Since the British also liked to wager, it followed that gentlemanly bets developed around their sailing prowess. So the idea was born in the U.S. to build a sailing craft that could challenge British superiority and win substantial sums at the same time.

Our key protagonist is John Cox Stevens. He was a grandson of a member of the Continental Congress and the son of a Revolutionary War colonel turned entrepreneur. The colonel and his sons called Hoboken, New Jersey home. The colonel made his major profits from ferry services – Hoboken to Manhattan and then Philadelphia. His children were adventurous. Son John, who is the key player in our story, steered the first propeller driven boat in 1804 at the age of 19. Later with his brother, he ran a successful steamship line up the Hudson River. In addition, their father owned all of Hoboken. There they developed a town, an amusement park, and a seaport. In short, the Stevens family was a conglomerate.

Sailing was one of John's passions. He built a series of larger and larger boats for competition in the then pristine lower harbor of New York City.

His pride and joy was a 110 foot sloop named “Maria”. It was a racing monster with so much sail area that it was unseaworthy outside of the harbor. To keep her from tipping over, Stevens had lead ballast smeared like paint over the bottom. Periodically he would accept a challenge from any comer. Bets on the outcome were fierce and the contests drew lots of publicity. Unfortunately the oversized Maria would often break down on the course and lose. But it was all part of the game.

Before long, Stevens and 8 friends gathered and formed the New York Yacht Club. The date was July 30, 1844. The first commodore was Stevens himself. Three days later their fleet sailed up to Newport, Rhode Island to compete with boats that had come down from Boston. Regional contests between New England and New York sailors were natural duels. Sometimes an English yachtsman would appear and offer a challenge. This would engender considerable publicity but no takers. Finally in 1849 American and English yachts went head to head in Bermuda. The American “Brenda” barely bested the English boat “Percy” by 15 seconds.

By 1850 forces were at work that made a formal transatlantic challenge inescapable. American nationalism was growing. The country had just taken Texas, California, New Mexico and desolate land that would become Arizona, Nevada and most of Colorado in the short Mexican War. There was talk of an interocean canal through Nicaragua, which was increasing tension with Great Britain. The American clipper ships were dominating the tea trade between China and Britain. American inventors were exploiting the free-wheeling capitalist system to produce the telegraph, the sewing machine, the rotary printing press, and even the lowly but practical safety pin. Railroad mileage had increased by 7,000 miles in the last ten years. The value of American

goods was at the cusp of surpassing agricultural products – a startling idea for the time.

Sometime in 1850, John Cox Stevens decided to build a racing yacht and sail it to England to show off American prowess at the time of the Great Exhibition of 1851. While he could have financed it personally, he formed a syndicate with five friends, probably to minimize the risk should the venture be unsuccessful.

The group included some substantial men of the time. There was Hamilton Wilkes, son of a president of the Bank of New York plus James Hamilton, the third son of Alexander Hamilton. He was a politician like his father and described as “facile, smooth tongued, and ambitious” by a biographer.

Another key investor was George Schuyler, closely related to Hamilton. He was the grandson of a famous revolutionary War general and heir to one of the great colonial fortunes. At age 39, he was the youngest member of the group. It was Schuyler who worked with the builder, William H. Brown, who in turn promised to build a yacht “faster than any vessel in the United States brought to compete with her” on penalty of the boat being returned if she failed to triumph.

Brown’s reputation was stellar, owing in large part to his designer George Steers, who was responsible for the fastest pilot boats in New York Harbor. He had also designed some competitive racers for Stevens and his brother. Now at age 30, he had landed the plum job of creating the fastest possible yacht for the most renowned American sailor.

The boat was to be called “America” and her shape was a radical departure from the traditional lines favored in England. Seen from above her forward area looked like a huge arrowhead. Her beam, which is the maximum width, was well aft. Instead of the usual centerboard of

the New York yachts, America had a deep, angled keel. Mounting the hull were two steeply canted masts. The sails were made of cotton, which held its shape much better than the traditional English flax. America was a big boat (102 ft. overall with over 5,000 sq. ft. of sail).

Its first test was against the trial horse “Maria”, which was even larger than America and carried 50% more sail. As stated earlier, this made her very fast but also unstable outside the confines of New York Harbor. But on the water, the newcomer seemed to most observers to be at least as fast as the trial horse, Maria.

Despite this John Stevens argued strenuously that the trial boat had suffered from poor handling and America was an inferior craft. Because of this he demanded a lower price.

He pressed his claim so hard that he garnered a 33% discount, paying \$20,000 instead of the originally agreed \$30,000. The tycoons of the era were a tough breed.

The year 1851 was a high point in British prestige. The Queen’s consort, Prince Albert, had conceived and executed what today we would describe as a World’s Fair. Its aim was to proclaim and promote the astounding progress of Britain in modernizing the world. Its symbol was a magnificent glass palace in the heart of London. The structure housed the best and latest of English accomplishments. What an opportunity for Stevens to challenge British hegemony on the water.

On June 21, 1851 America was towed out into New York harbor and set sail for Europe under reduced canvas for safety purposes. Twenty days later she arrived in Le Havre, France. There she was polished, painted and had her racing sails put on. And there too John Cox Stevens came onboard. He was still abashed by lectures from Americans in Paris, particularly Horace Greeley of the New York Tribune, who issued a dire

prophecy. He intoned, “The eyes of the world are on you. You will be beaten and the country will be absurd.”

With those happy thoughts in their ears, America’s crew left France for the Isle of Wight and the headquarters of the Royal Yacht Squadron. The Squadron’s commodore, the Earl of Wilton, had written earlier to offer the squadron’s facilities but said nothing about racing. But Stevens knew that if America was to find competition, it would be there.

As luck would have it, the elements created an informal challenge. Before it could reach the English shore, America was becalmed in a dense fog and was forced to drop anchor and wait ‘til the air cleared and the wind picked up. Once conditions were favorable, a racing cutter sailed out to meet them; presumably to lead them to the harbor. The British ship maneuvered around the America and Stevens saw this as a challenge. He waited until the English ship was 200 yards ahead and then told his captain “full speed ahead”. America slowly edged to windward of the other’s wake, slid by her, and then beat her by 600 yards.

Minutes after the jubilant crew dropped anchor and doused sails, a welcoming party came on board to make good on the offer of hospitality. In the group was the crusty 83 year old Marquess of Anglesey. He had lost a leg at the Battle of Waterloo and had clumped around sailing boats for four decades. He quickly took a look at America’s sharp bow and different shape and muttered “If she is right, then all of us are wrong”.

Probably intimidated by her performance when coming to port, no English sailor would challenge America to a race. Flustered by the prospect of finding no action after going to all the trouble and cost of building and sailing her over, Stevens shocked the establishment by

offering to race against any squadron yacht over a 20-70 mile course for the astronomic sum of 10,000 pounds -- equal to 50,000 dollars—more than double the adjusted cost of America, and upwards of one million dollars in today's currency. Nobody stepped forward to accept the bet.

But the country's pride was stung. The disgruntled London Times compared English yachtsmen to a flock of pigeons paralyzed by fear at the sight of a hawk, and questioned their "pith" and "courage" and their fealty to "our national naval spirit". That hit a tender nerve at the Royal squadron. The result was that America was invited to sail in their annual race around the Isle of Wight. There was to be no cash prize to Stevens' dismay. Instead the winner would receive an ordinary bottomless silver urn, 27 inches high and 8.5 pounds in weight.

The Isle of Wight sits as a large quadrangle on the south side of England. It is about 70 miles in circumference and narrowly separated by salt water from the mainland. This results in a protected harbor for the town of Southampton, which is just north of the island. In the coming age of steam, it would be the home port of famous transatlantic ships like the Queen Mary, Queen Elizabeth and the ill-fated Titanic.

While the English were leery of Stevens' challenge, they were gracious in helping the visitors. A local shipbuilder made a jib's boom to augment America's speed off the wind.

The Royal Squadron also exempted the boat from 3 of its rules. Her crew could use poles to push out her sails on the run before the wind, since America's steeply angled masts prevented the sails from swinging out in light air. She could be entered by a syndicate and not by an individual owner, and she could save face and withdraw from the race if the wind fell below 7 miles an hour.

When the race began at 10am on August 30, 1851, America's crew was slow getting away from the standing start. This was probably intentional in order to keep clear of her fourteen English competitors. But soon she picked up speed. The race course was clockwise around the Isle of Wight. With the prevailing wind from the west, this put the first quarter of the distance off the wind. This was a strong point for the America's hull shape and the ability to puff out the sails manually with wooden posts that the British had graciously permitted.

It wasn't long before she picked up speed, passing through the fleet, while artfully dodging a large steamer filled with spectators. She seized the lead after 90 minutes and never lost it. Half way around the course, she was 2.5 miles ahead. This was stretched to 7 miles after beating to windward on the back side of the isle. The finish line was reached at 8:30pm in a dying breeze off the Royal Squadron Yacht Club.

How did America do it? There was some luck. One set of race instructions required the fleet to round a marker well out to sea. A second set did not mention this, and those were the one's given to America's crew and some of the English boats. This saved a couple of miles.

But good luck was only part of it. She was well sailed by Stevens. Also she benefitted from a local pilot secured by a nearby American consul, keeping the boat clear of both shoals and adverse currents. Most important, America was fast even in light winds that Stevens feared. An English spectator later remarked to a nearby American, "That boat of yours is a wonderful creature—she beats us going to windward, and when the breeze died the other day ... she actually out drifted us." Her loosely cut cotton sails, which had to be periodically doused with buckets of water to reduce stretch, proved superior to the British flax

ones. Finally, her long pointed bow cut through the choppy waters of the English Channel with ease.

So surprised were the hosts by the speed of the America that the suspicious Marquess came aboard, hoisted his 83 year old body over the back of the boat, and searched in vain for a hidden propeller. Others were not so easily convinced that she wasn't somehow steam driven. Their doubts were not erased until they boarded the boat themselves or saw it hauled out of the water.

One delighted visitor was Queen Victoria, who was less concerned about catching the colonials at cheating than about cleanliness. She ran her handkerchief over a galley shelf, and when it came up dustless, had a gold sovereign issued to each crew member and gave a gold watch to the skipper.

The race had broad significance. In the year of England's Great Exhibition, she had been bested in her own element, the sea. And in the United States, troubled by the increasing pressures of slavery, the news was treated triumphantly- Daniel Webster the silver tongued orator of New England pontificated, "Like Jupiter among the Gods, America is first and there is no second."

Like almost every later defender of the Cup, America won because she was technologically superior; because she was a little lucky; and because she was managed efficiently by a wealthy, ambitious syndicate uninterested in anything but winning.

John Cox Stevens and his friends were unsentimental in their victory. Ten days later they sold America to an Irish peer for \$25,000, booked passage on a steamship for New York, and carried away the bottomless silver pitcher plus a modest profit after calculating their expenses.

A sumptuous welcoming dinner followed in New York, with some over the top nationalistic toasts. One of the more assertive was “Our modern Argonauts. They have brought home not the Golden Fleece, but that which gold cannot buy, National Renown.”

And what to do with that Cup? For some time it was passed from member to member of the syndicate for personal display and pride. There was even talk of melting it down into souvenir medals for their grandchildren. But in the end the syndicate came up with a solution that provides the periodic efforts we know today. On July 8, 1857 the cup was donated to the New York Yacht Club with a 239 word deed of gift. This established the trophy as “perpetually a Challenge Cup for friendly competition between foreign countries” and laid out three guidelines. First, “matches” would be held officially between yacht clubs, not individuals or governments. Second, if the challenging and defending clubs could not agree on the terms for the match, it would be sailed over the course used in the defender’s annual regatta. This replicated the race around the Isle of Wight which America had won six years earlier. The third stipulation was that the challenger would give six months’ notice of its size and rig, presumably so the defender would be similar and the competition fair. Ever since, sailors of this class have been wealthy and cantankerous so that each of these three conditions has provoked many arguments and lawsuits.

Having accepted the cup and deed of gift, the New York Yacht Club sent letters to clubs in Britain, Canada, Belgium, the Netherlands and Russia. Nothing happened due to the distraction of the coming Civil War.

After the hostilities, prosperity and grand yachting returned with the first challenge made in 1870.

This was the start of the long dominance of the cup races by the New York Yacht Club. Counting the original 1851 race, American boats held

onto the cup 24 times over a span of 132 years. During that time they won 81 races and lost 8. What was the secret of that success?

Dispassionate critics have identified key reasons. The club recruited skilled and experienced sailors who knew the courses well. An example of this came in the third race of the 1934 series. The English challenger Endeavor, a faster boat in light wind than the defender Rainbow, was in the lead by almost seven minutes around the last mark. Up ahead, the finish line was hidden by fog. The American skipper, Mike Vanderbilt, turned the helm over to his light air specialist for the final leg. He in turn laid a trap by heading the Rainbow higher than necessary to cross the finish line. The inexperienced navigator on the English boat took the bait and decided to cross to ensure the win. But to do this he had to tack twice, once to cross in front of the American boat and once to return to the direction of the finish line. These tacks were time consuming and slowed down the Endeavor. The American boat then headed off on a speedy medium reach, slipped by the English and won the race.

Another reason for the American dominance was the selection trials, started with the third defense of the cup in 1881. No longer would the New York Yacht Club pick a defender from its membership. Instead a series of races in boats designed for the competition were inaugurated. The winner then became the defender. These trials ran for several months and honed the skills of all involved. In contrast the challenger usually arrived with less experience and consequently less speed.

A further edge was the NYYC commitment to the latest and best technology—hull design, sail design and gear design. Thus in 15 of the 24 successful defenses, the New York Yacht Club fielded a clearly superior craft. When this was not the case, the U.S. boat was just as

speedy as the challenger and relied on better boat handling and tactics to do the job.

Throughout its long and successful reign, the NYYC maintained a serious, professional approach, in contrast to the casual attitude of the challengers. Running a successful Cup campaign was like directing a small corporation. Captains of industry like J.P Morgan, Charlie Paine and Peter Dupont were enlisted. In contrast, many of the challengers, particularly the British, had a relaxed and sporting approach. Winning wasn't everything to them. This reflected some cultural differences as well as time constraints. For example, a challenger often had to give up a yachting season in his home waters. This was not a problem for the Americans. Their participants were dedicated to the Cup defense, which was all the reason they cared for. For their part, the British were loath to lose a season of regular sailing in their home waters.

The contrast in styles was striking in the 1885 match. Four American boats sought to be the defender. The winner of the trials was a Massachusetts craft, selected by the committee over the 3 other NYYC aspirants. The challenger had no such pressure to succeed. One of the races that year highlighted the different styles. At the start the British boat, having right of way was accidentally fouled by the American defender. The race committee immediately disqualified the American boat and signaled the English challenger to sail the course to secure its victory. But the English skipper, in the spirit of sportsmanship, refused to do so and the race became a draw.

The American cutthroat mentality was apparent many times over the years. Prior to the 1934 match, the two rival skippers agreed to furnish their yachts with toilets, bathtubs and other personal convenience items. But when the Englishman inspected the American boat, he could not find the required amenities and accused the Americans of ignoring

the rules. However, this proved fruitless. The American skipper took his English counterpart down to the bilge, where a toilet and bathtub were stuffed to lower the boat's overall weight, a measure to help the boat stand upright in heavy wind and add to its speed. He added the point there was nothing in their agreement that said those items had to be functional.

A final reason for American dominance during those 132 years was the control of the rules by the New York Yacht Club. They finally agreed with prodding from legal challenges to the concept of a two boat match race, as spelled out in the original Deed of Gift. Yet they were still up to their old tricks. So while the races of 1871 were scheduled as two boat contests, the NYYC insisted on using two boats as the Defender. They would offer boat A in heavy winds, where it excelled, and boat B in lighter winds, where it was strongest. This chicanery finally came to an end and the competition settled into the format we know today of a Challenger and a Defender.

Finally a determined competitor from Australia named Alan Bond lifted the cup in 1983, using the same skills and tactics employed by the NYYC over so many years. Bond was like a dog with a bone. He couldn't give up his quest, even after losing in 1977 and 1980. His team's manager reflected their approach. He stated: "We train like commandos. I first came here in 1974 and it was a lot of fun. Now that has gone. The whole thing has become deadly serious."

Even with a boat that was judged to be faster than its American opponent, the Australian challenger won that series in the last encounter, 4 races to 3, by the narrow margin of 41 seconds.

This was the most important moment in the Cup's history after the original 1851 race around the Isle of Wight. It ushered in a more rough and tumble competition, with yacht clubs from various countries

holding the cup on average for only 6 years. In a span of 30 years, the cup was held by 5 different yacht clubs located, in order, from Australia, the U.S., New Zealand, Switzerland and back to the U.S. The New York Yacht Club lost its position as the American defender. When the cup returned to U.S. waters, it was due to the efforts of California sailors.

One of the objectives of the periodic match races was to incorporate new designs and modern equipment for greater speed. This led away from the traditional single hull to multi-hulls like catamarans and trimarans. The major break from tradition came in the most recent series in 2013 with the agreement to adopt a large catamaran 72 feet in length with two pontoons joined by metal straps to hold the mast and controls plus netting to allow the crew to move from one side to the other. These were monster crafts 46 feet wide and weighing 7.5 tons. They were planned to be the fastest sailing vessels ever built. They were powered not by standard sail but rather a 131 foot high wing, equivalent to 13.5 stories that looked as if it had been sliced off of a jumbo jet. It also sported a more traditional jib. These features were breathtaking by themselves, but the design agreement added a new element that would be unknown in its final effect until the boats were on the water. This consisted of two metal strips, called foils, one on each pontoon, that could be lowered to make the entire craft rise out of the water and glide at full speed. No one knew how fast they could go, but experimental work and mathematical conjecture indicated a velocity two to three times greater than wind speed. That was unheard of for sailboats and considered dangerous unless sailed with a mixture of expertise and courage.

The setting for the 2013 races was San Francisco Bay. The winds there are almost always strong, drawn through the Golden Gate Bridge from

the west to fill the void of low pressure in the San Joaquin Valley to the east.

While the speed of the new craft was unknown but rising, their cost of building, testing and staffing, etc. was soon apparent and daunting. Originally eight challengers were announced in June 2011. They came from yacht clubs in China, France, Italy, New Zealand, South Korea, Spain and Sweden. Preliminary series would whittle these down to one challenger to face the U.S. Cup holder and defender. But the whittling took place first not on the water but in the counting room. The costs were so extraordinary in this high stakes poker game that only 3 players remained at the table -- New Zealand, Italy, Sweden. This led to a series of elimination matches with New Zealand the winner. The estimated cost by challenger ranged from \$65 to \$115 million. The Swedes were wiped out 4-0 in their series, and went home with an estimated cost of \$29 million for each of their four losing races that lasted less than 30 minutes each.

Beyond the cost, a major catastrophe altered the terms of the final contest. One of the Swedish boats being prepped for the races was on a practice run in May 2013, two months before the start of the elimination series. The wind was strong but not unusual for San Francisco Bay. Suddenly word came over the radio that the Swedish boat had capsized and broken up. Worse yet one of the crewmen had been killed. There had been earlier accidents with these new high speed craft. The original American boat had turned over, broken up and its pieces swept through the Golden Gate Bridge by a strong ebb tide.

The race committee took action to ease the danger of flying these monsters at 40-55 miles an hour. They placed a limit of 23 miles per hour on the wind speed for competition, one third down from the original. Anything over that before or during most of a race and it

would be canceled. There were many other safety changes, most small in nature but in the aggregate important to protect life and limb. One concerned protective clothing, so that the crews looked as if they had stumbled off the playing field of a team from the National Football League.

The main event, the challenger from New Zealand, versus the American Defender from a nearby San Francisco Yacht Club, got underway on September 7, 2013. But even before it began, another crisis broke. A routine check of an American boat used in another series of races a year earlier was found to have been a modest 5 pounds over the legal limit. Since the offending boat had been built and maintained by the same group that controlled the America's Cup defender, the judges decided to put the sins of the offender on the new larger American craft that was about to compete in the finals. This logic could only be understood by a Philadelphia lawyer. Perhaps it was historical payback for the machinations of the New York Yacht Club during the 123 years it twisted and turned to hold onto the Cup.

The American team protested to no avail. They were penalized 2 points. The terms of the match were that nine points, equivalent to nine victories, would secure the cup. So the U.S. yacht was starting from minus two and would need eleven wins to prevail.

To put this competition in terms of motorized vehicles, imagine two semi-tractor trailers side-by-side on a multi lane interstate idling at 5-10 miles an hour. These trucks would be fully loaded, bringing their weight to 7.5 tons. At the starting signal, their drivers would step on the gas, reaching a speed of 40-50 miles per hour in a short distance of 150 feet. That would not be possible, but the America's Cup boats did it every day. Then at a clearly marked point, they would have to turn sharply left without braking and without tipping over, careening 3 miles to the next

mark. There is no way that heavy trucks or semis can do this, but the America's Cup boats can.

The first race had all the speed, lead changes, close encounters and excitement that the designers had hoped for. The two boats started fast and reached 48 miles per hour on the first stretch. New Zealand then led by 3.5 seconds. For most of the next 3 legs, the lead shifted back and forth, until the Kiwis tacked dangerously close in front of the Americans, forcing them to tack away to avoid bad air off the challenger's wing.

And that was it. The Americans could not recover and race 1 went to New Zealand. The second race that followed that afternoon had the same result and another close victory for the challenger. While the boats were evenly matched, New Zealand was picking up yardage with crisper tacking and very bold tactics.

The pattern held true for the third encounter, but the Americans squeezed out a 7 second win in the fourth, with the giant boats screaming across the finish line at 50 miles an hour.

In the fifth race, the Americans were leading halfway, but then made a tactical error in going up the opposite side of the course from the Kiwis. It was a mistake that led to another U.S. loss.

Then the U.S. Team made a controversial decision. Under the terms agreed earlier by both sides, each contestant could postpone one race without losing a point. And the Americans did this for the sixth encounter. They also changed their tactician, the man who advises on the course to be followed, allowing the skipper to concentrate on boat handling. The Americans were also using any downtime to fine tune the mechanics of the boat, searching to work out multiple ways to increase maneuverability and speed. Both boats were doing the same, but the

New Zealanders were further up their learning curve, thanks to earlier wins over the Swedes and the Italians in the preliminary series.

The results still went the way of the challenger when race six was run. It was another victory for the team from down under by 47 seconds. They now led team USA by plus 5 to minus 1 and stood 4 wins from taking the Cup. And race 7 was another victory for the challenger. The experts noted that the Kiwis were showing consistently greater speed upwind that proved too much for the Americans.

By race 8, the U.S. boat sported a shorter bowsprit designed to improve the ability to sail closer to the wind and to speed up tacking. Such changes were allowed under the rules. But they didn't seem to alter the dynamics, as the challenger once again was able to tack dangerously close in front of the defender on the upwind leg. But this time two things went wrong for the leader. Coming out of the tack, the New Zealand craft suddenly rose up at 45 degrees, the classic capsize angle about to happen. The American boat was about to smash into the other at high speed with disastrous results. Fortunately the American skipper tacked away just in time. By the time the Kiwis got their craft under control, the Americans had a commanding lead and scored their second win of the series. With this result, the U.S. team had erased the penalty points and now stood at a starting position of zero. At least from now on, any victories would count toward the match championship of nine. But they had a steep climb, while the New Zealanders needed only 3 more wins for the Cup.

The second race of that day was called after the first 2 marks had been passed, due to building winds going over the agreed limit. Once again the Kiwi boat was leading by a hair.

The next day the two races were split so the match stood 7 to 1 in favor of New Zealand. But there were signs of latent vigor in the American

boat. All the unknown readjustments constantly being made on the defender's yacht seemed to be paying off. The crew and skippers on the two boats were evenly matched. Was it possible that the Americans had unlocked extra power their designers had built in?

The eleventh race dashed the U.S. hopes. The lead changed hands back and forth, with New Zealand winning by 14 seconds, making the match results 8 races to one. The talk in the tents of the experts was turning to 2017 and where the Kiwis would host the races. After all, they needed but one more victory and the Cup was theirs. And so far they had been dominant.

It was now match point. The U.S. team had to win 8 consecutive races to hold the Cup. The next encounter was another close call through the windward leg with the U.S. pulling ahead going off the wind and winning.

The next day, the 13th in the series, was later called the heartbreaker. The wind went soft for the first time. The U.S. boat got the better start and led by 10 seconds at the first mark. Then the Kiwis used the current and some loose puffs to pull ahead by a large margin. But the race was no longer between the two contenders. It was New Zealand versus the clock. By prior agreement the time limit for the first boat to cross the finish line was 40 minutes. But it took the leading Kiwis a long 14 minutes for the first two legs. And their luck and their wind ran out just before they were to round the last mark and the final sprint to the finish line.

The call came over the radio from the regatta director to "abandon race". Despite the disappointment, the skipper of the challenger was upbeat. "This is the third race that we've been in the lead and haven't won, either hitting the wind limits or... the time limit. But there's no

loss of confidence... it's just a case of going out there again tomorrow and racing hard."

And that's just what they did in the next encounter. It was close, close, close for the first two legs. But the American boat had overcome its weakness going to windward. Somehow all that tinkering paid off. While the Kiwi boat speed had picked up with experience and adjustments, the Americans had done them one better. In particular the defender would rise more quickly on its foils to produce speed that the challenger could sometimes equal but not match.

And that's the story of the succeeding six races, each won by the Americans. It was a repeat of the early part of the series – two closely matched boats with an edge to the one that had a slight edge, particularly going to windward.

And so it came down to the last race. Each side had 8 plus scores, although the Americans had actually won 10, with two of those needed to offset their minus 2 start due to the penalty inflicted for sins committed a year earlier in another series with different boats.

The skipper of the New Zealand craft was an Olympic champion who knew how to energize his crew. He laid out 3 key points to winning this final race. First they must get that all important edge at the start. Then they needed to expand on that lead clearly at the first buoy, when the race course veered off for a long run to the next mark. There, they should be ahead by 8 plus seconds, which was roughly 500 feet. With this advantage, the leading craft had won over 60% of its races (both for the Kiwis and the Yanks).

On that fateful final race, the New Zealand boat had done all these things and achieved its objective of leading the American defender at the three target points. But it was not enough. Over the rest of the

course, the U.S. boat rose out of the water quicker than the Kiwis and sailed away faster and faster.

The Americans once again had defended the cup. There was time for rejoicing in San Francisco Bay, but there was also time to contemplate the next competition. Within 30 seconds of the U.S. victory, the first challenge was received from an Australian yacht club by email. Five other potential challengers have also been heard from. The series will be held in 2017 in Bermuda. The boats will again rise out of the water on foils at high speed, although they will be slightly smaller to try to save cost. It's certain to be exciting. The man who started it all back in 1851, John Cox Stevens, would be proud.