

AN IMPORTANT SHIP

WITH THREE YEARS OF SERVICE, QUEEN MARY 2
IS COMING INTO HER OWN

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When Cunard Line's QUEEN MARY 2 went into service in January 2004, it was clear that she was an important ship. While there are other contemporary passenger ships that have excellent amenities and provide good vacations, QM2 is a ship with historic attributes. She premiered as the largest, longest, tallest, and most expensive passenger ship ever built. Moreover, she was the first ship in 40 years to be built as an ocean liner, i.e., one designed to transit grey waters at high speed as opposed to a cruise ship which is designed to do leisurely voyages in calm waters. A regular visitor to our harbor, *The Log* visited her and found that as she approaches the third anniversary of entering into service, QM2 has developed her own identity, emerging from the shadow of her famous Cunard predecessors.

The line

In order to put QM2 in perspective, one has to look at the history of Cunard. As Carol Marlow, President and Managing Director of Cunard, told *The Log*: "At Cunard our history is really where our future lies. We take our history with us. Really, our heritage is our watchword."

Sir Samuel Cunard formed the Royal Mail Steamship and Navigation Company in 1839 in order to obtain a contract from the British government to transport the mail from Britain to America on a regularly-scheduled basis. The following year, the 1,154 ton paddle steamer BRITANNIA made the company's first transatlantic crossing in 14 days. Although the lucrative mail contract was the company's primary business, the ship also carried 63 passengers in accommodations that passenger Charles Dickens described as resembling a coffin, only wet.

During the next half century, the company's name changed to the Cunard Line, reflecting its founder's dominance of the organization. The fleet changed as well, gradually losing the vestiges of sailing ships, growing in the number of ships, and growing in the size of the ships.

Cunard did not have the Atlantic to itself. The massive waves of immigration from Europe to America attracted companies from France, Germany, Italy, the Netherlands, and the United States to build fleets of passenger ships. In addition, as naval technology advanced, it became possible to devote a portion of each ship to more luxurious accommodations, which made it more

enticing for those people who had made fortunes in America to return to Europe to absorb the culture and to mix with other rich people.

rendered obsolete. They were the first "superliners."

Realizing that it could not compete with the new Cunarders on the



QM2 during a cruise to Canada in October 2006. (Photo: R.H. Wagner).

By the turn of the century, the German lines were capturing the lion's share of the market. In addition, American financier J.P. Morgan was purchasing steamship companies in an attempt to obtain monopoly power over the Atlantic passenger trade. As an island nation, this was viewed as a serious threat to Britain. Consequently, in 1903, the British government subsidized the construction of two ships for Cunard - - LUSITANIA and MAURETANIA (See *The Log*, Spring 2005 at p.10). These ships were amongst the first to have turbine engines and were large, luxurious and fast. Everything else on the Atlantic was

basis of speed, the White Star Line, a British company owned by Morgan, elected to build a trio of nearly identical ships that would offer unprecedented luxury in even larger-size hulls. Of course, the opulent public rooms and staterooms were only for the millionaires who traveled in first class. But, the accommodations in second class were as nice as first class in many ships then plying the Atlantic and even the Spartan space allotted the masses of immigrants who were still the bread and butter of the line was better than what they had left at home. Unfortunately, these ships never fulfilled their promise after the second of the class, TITANIC, experienced difficulties on her maiden voyage.

Following the First World War, America restricted immigration, which meant that the passenger lines had to shift their focus. Carrying the rich and famous would not be enough to sustain these massive ships. Accordingly, the lines turned to the increasing amount of business travel between Europe and the United States and to encouraging the growing American middle class to vacation in Europe. However, these passengers were not going to accept the dormitories that the immigrants had used. While nobody really expected a room as nice as in a hotel, the accommodations should at least be pleasant. Furthermore, this was an era of rapid technological advance and the public was fascinated by fast trains, fast automobiles, and the new airplanes. Ships should be fast and sleek as well. Germany and Italy saw the opportunity and responded with streamlined speed queens such as BREMAN and REX.

Cunard again envisioned a competitive response that would be a leap forward. It would have two new superliners more than 1,000 feet in length that would make the crossing in just five days and which would offer a variety of accommodations. Accordingly, in 1932, construction began on QUEEN MARY. However, as the Great Depression deepened, construction came to a halt and the ship sat idle, towering over the Scottish countryside for more than a year.

Meanwhile, the French Line was building its own 1,000-foot superliner. Unlike QUEEN MARY, which was essentially a larger version of the pre-war AQUATANIA, a near-sister of LUSITANIA, NORMANDIE was to be a technological innovation as well as a palace of art deco design. Furthermore,

the French government was subsidizing her construction. As a result, even though she was begun after QUEEN MARY, NORMANDIE entered service first.

Sensing another threat to Britain's maritime dominance, the British government loaned Cunard the money to complete QUEEN MARY on the condition that Cunard merge with the ailing White Star line, which had never really recovered from the loss of TITANIC. The ship entered service in 1936 and was embraced by the public. Consequently, while NORMANDIE and QUEEN MARY traded the title of fastest ship for the rest of the decade, QUEEN MARY was much more successful in attracting passengers.



Commodore Ronald Warwick (retired) chats with his successor Commodore Bernard Warner. (Photo: R.H. Wagner).

The success of QUEEN MARY called for the construction of a running mate. QUEEN ELIZABETH was larger, more technologically advanced, and more modern in her décor than QUEEN MARY. However, she began life, not in the traditional Cunard livery of black hull, white superstructure and reddish-orange funnels, but painted haze grey. In 1940, it was announced that she would leave her builder at Clydebank,

Scotland and sail to Southampton, England, for the remainder of her fitting out. Appreciative of this news, the Luftwaffe duly dispatched a squadron of bombers to Southampton on the appointed day. However, they were to be disappointed. After leaving Scotland, the untried QUEEN ELIZABETH sped across the Atlantic for New York. She was so quick that her escort of five destroyers appeared in New York a day after the great liner.

For three weeks, QUEEN ELIZABETH, QUEEN MARY, and NORMANDIE sat side-by-side at the piers that now make-up the Passenger Ship Terminal. Then, the two Cunarders left to take on the role of troop ships. (NORMANDIE would catch fire and capsize at her berth in 1942. *See The Log*, Winter 2003, at 4). Because of their size, each of these ships was able to transport an entire division at speeds over 30 knots. Winston Churchill credited them with shortening the war by a year.

After the war, the two superliners took up the transatlantic service. For the next decade, Cunard did very well, transporting movie stars, vacationers, and business people to and from Europe. However, in 1957, the first transatlantic jet service began and within just a few years, the bulk of people crossing the Atlantic were doing so by air. During one crossing, QUEEN ELIZABETH had only 12 passengers in first class.

At first, Cunard had hoped that the public would become tired of air travel and would return to the grace of ocean voyages. The line even tried using its flagships for tropical cruises but the lack of air-conditioning and their poor maneuverability made the ships unsuited for the task. As losses

mounted, it became clear that Cunard's existing fleet was not what the public wanted.

Once again, Cunard planned an innovative response -- they would build a ship that was not a stuffy, old, ocean liner but rather a ship that reflected the latest in interior design capturing the spirit of the "Swinging England" of the 1960s. Furthermore, the ship would utilize the most innovative maritime technology and be equally at home doing crossings or cruises.

The new ship was to assume the name of the second of the Cunard Queens, which was being withdrawn from service. However, at the christening ceremony, Queen Elizabeth II, named the ship "QUEEN ELIZABETH 2" - - starting years of debate over whether the ship is named after the monarch or after the earlier ship. "QE2", as the ship became popularly known, entered service just as the ocean liner era closed. Not only were the old Queens gone but newer superliners such as the UNITED STATES and the FRANCE would soon leave the Atlantic. QE2 soon had the Atlantic to herself.

The third of the Cunard Queens survived through constant innovation. Her décor shifted over the years from Swinging England to a more sedate but luxurious atmosphere. Class distinctions evaporated and essentially all the public facilities became open to all of the passengers. New, more efficient, diesel engines replaced her steam plant, which also had the effect of increasing her maximum speed to 33 knots. Additional cabins and suites with balconies were added. Over time, she became the most famous ship in the world, serving as a troopship in the Falklands War (*See The*

Log, Fall 2005 at 10), the backdrop for movies and for television programs, and participating in numerous maritime festivals including such New York events as Op Sail, the Columbus Quint-centennial, and Independence Day 2000.

Still, QE2 was perpetually running for her life. It was always a question of whether there was enough of a market to support what Cunard often called: "The Last of the Superliners." Cunard was no longer an independent company. It had been purchased by the engineering firm Trafalgar House Ltd. when that company had dreams of becoming a conglomerate with large holdings in the leisure industry. When Trafalgar House, was purchased by Kvaerner Group for its engineering assets, the Norwegian corporation made clear it had no interest in operating cruise ships. As the new Millennium approached, the once mighty Cunard fleet had shrunk to just two ships.

Meanwhile, in Florida, a passenger ship company had sprung up that was seemingly the polar opposite of Cunard. It had begun with a second-hand ship making mass market cruises out of Miami to the Caribbean. At times it had been questionable whether it would survive. Reportedly, the owner of the line had to empty the cash registers in the ship's lounges during one voyage in order to pay for refueling. However, appealing to America's insatiable appetite for "fun", Carnival Cruise Lines had eventually flourished. Indeed, by the late 1990s, it had purchased many of the venerable passenger ship companies, including Holland America Line, and was now the largest operator of passenger ships in the world.

Carnival Corporation, the holding company created to oversee

Carnival's various acquisitions, however, recognized that not every person who may be interested in a cruise vacation is interested in the same thing. Accordingly, it maintains the identity of its various acquisitions, targeting them to different market segments. In the wake of the success of the film *Titanic*, in 1998, Carnival saw a potential market for ocean liner vacations and acquired Cunard. Not only was QE2 saved, but Carnival announced that it was going to build the most fabulous ocean liner ever.

Here is where the threads of Cunard's history converge. As with *LUSITANIA* and *QUEEN ELIZABETH 2*, the new ship was going to be a technological leap forward. It would take the technological advances that had been made in cruise ships in recent years and combine them with the streamlining and hull strength that were hallmarks of the superliners. This was not going to be just another cruise ship. As with *QUEEN MARY*, the new ship would be of unprecedented size. As with *QUEEN ELIZABETH*, the décor would be luxurious but sedate. As with the White Star ships, the new ship would maintain a high standard of service. Finally, as the shipyard that had built the earlier Cunard Queens was now closed, the ship would be built in France at the yard where the *NORMANDIE* was built.

The ship

Construction of QM2 began 4 July 2002 at the Alston Marine shipyard in St. Nazaire, France and she was christened on 8 January 2004 by Queen Elizabeth II. Although built in France and owned ultimately by an American corporation, she is registered in Great Britain. Most of her officers are British.

Her crew is international, coming mostly from Europe and the Philippines.

The ship's statistics are impressive. She is 151,400 gross tons with a displacement of 76,000 tons. Her length is 1,132 feet and her beam at the waterline is 135 feet. She has 17 passenger decks and is 232 feet high keel to funnel, which gives her just a few feet clearance going under the Verazano Narrows Bridge. In fact, her statistics are not much different than those of an aircraft carrier (Cf. USS NIMITZ (CVN 68): 1,040 ft. long; 134 ft. wide, and 91,000 tons full load displacement). She is no longer the largest passenger ship in terms of gross tonnage (See *The Log*, Summer 2006, at p. 9). However, as QM2's master Commodore Bernard Warner told *The Log*, "I don't think there is any great deal about being the biggest or whatever. I know we are the best and the biggest liner in the world."

Indeed, what distinguishes QM2 from modern cruise ships from a naval architecture point-of-view is not her size but the fact that she was designed as an ocean liner. At one time, the only difference between a cruise ship and an ocean liner was in the accommodations. However, starting in the 1970s, the cruise lines began ordering ships that were purpose-built for warm water cruising. The object was to build ships that maximized the number of passengers that could be packed within the dimensions of the ship. As a result, cruise ships became taller, and more box-like in appearance. Furthermore, since they did not have to deal with the rough weather of the North Atlantic, they did not need the long narrow bows of ocean liners, the draft of an ocean liner, or the speed needed to do a five-day crossing. Consequently, they could

be built with blunt bows, shallow drafts (which enables them to dock in many island ports), and slower speeds. Since the only line still doing regularly scheduled transatlantic crossings was Cunard, no ocean liner had been built since QE2.

As noted earlier, Carnival planned to use Cunard as the means to appeal to what it saw as a relatively untapped the market for ocean liner travel. This meant that the new ship could not just be a modern cruise ship with an interior that resembled the Titanic movie set. The dictates of North Atlantic weather and the need to have voyages short enough to fit with people's vacation schedules, mandated that the ship be built on the old ocean liner model. Accordingly, QM2 has a deep draft and her long, proportionally-narrow hull enables her to slice through the waves. To give her strength, there is 40% more steel in her hull than there would be in a cruise ship of comparable size. She is all steel, no aluminum. Moreover, she was built to do a service speed of about 26 knots, using her four diesel engines. When the two gas turbine engines are added, she can travel at about 30 knots.

Even though she was built on the ocean liner model, she incorporates 21st century technology. The ship has no traditional propeller shafts and no rudder. Rather, she is driven and maneuvered by four pods that are suspended from the hull. Two of these pods are in fixed positions and two rotate 360 degrees. Each weighs 250 tons, roughly the weight of a jumbo jet. In addition, the stainless steel, fixed-pitch propellers are on the front of the pods and pull, rather than push the ship through the water. This is more efficient

as the propellers are biting into relatively undisturbed water. When used in conjunction with the ship's three bow thrusters, the ship can essentially turn around in her own length. This splendid maneuverability allows the ship to dispense with the use of tugs in most ports.

The pods were the focus of one of the most traumatic incidents in the life of the ship thus far. In January 2006, the ship was leaving Port Everglades, Florida on a voyage around South America, when she struck an unknown underwater object. Upon her return to port, divers reported that one of the fixed pods had been badly damaged. Although the ship was able to complete that voyage, she subsequently had to go in for an unscheduled dry-docking in Germany where the damaged pod was removed. As a result, during the bulk of the 2006 season until a second dry-docking in November, the ship operated with three pods. Nonetheless, QM2 was able to maintain her schedule. "At the moment," Commodore Warner said in September, "we travel at 26 and a half knots at full speed, as opposed to 29 and a half. If we need to vary that we can. If you plot your course correctly at the start, you should not need to be speeding up and slowing down. You certainly don't need to be picking-up to about 30 knots. The weather reporting that we get these days is very good and you can plan ahead."

Because she was built to handle the worst of North Atlantic weather, the ship is remarkably stable. There are four stabilizers which extend 15 feet from the hull. However, because she is so tall, one would expect her to be at the mercy of the wind but *The Log* was onboard during a Force 9 gale and there was little

movement. "The secret of any ship is to get the center of gravity of the ship in the correct position. So, all of the heavy weights are in the bottom of the ship and the lighter steel is in the top of the ship. Of course, in the bottom of the ship you have the main engines, the stores, and everything else that is heavy. As you are going along at sea, you are using up fuel from the tanks in the bottom of the ship and as you are doing that you are replacing that with ballast water from the sea, so you are always keeping the weights within the ship the same. As long as you keep the center of gravity in the same place, it will always be a stable ship. [Furthermore, in comparison to a modern cruise ship] we have a lot more of us underneath the water than they have. We have a draft of 34 feet, they'll have a draft of 28 feet. So, there is a big difference."



Even with the latest technology, human beings maintain a vigil on the bridge. (Photo: R.H. Wagner).

The bridge of QM2 is spacious and populated with computer display screens. There are five flat display screens linked together by the Kelvin Hughes Mantra System. This integrated system allows the electronic charts, radar and the Computer Safety System, which

monitors all safety systems throughout the ship, to exchange information. A deck officer can choose which of the radar, chart, or safety displays will appear on a selected screen.

The Electronic Chart Display Information System gives instant access to navigational information, including speed, distance to go, and estimated time of arrival. The system allows the ship to largely dispense with paper charts. Whereas QE2 carries some 1,800 paper charts, 80% of the world's charts are carried on 11 CDs on QM2. These charts are also frequently updated electronically.

Four radar antennas are located on the mast and a fifth is located at the stern so that there is 360 degree coverage. With the Automatic Radar Plotting Aid, over 40 targets can be tracked simultaneously, with each target's true course, speed, closest point of approach, and time of closest approach displayed. Despite such electronic marvels, QM2 maintains a lookout with binoculars at night and the deck officers can often be seen peering through them during the day. Staff Captain (*i.e.*, XO) Trevor Lane explained: "Analysis of past and modern operational marine incidents [shows] that despite the provision of state of the art navigational equipment, there is never a substitute for the calibre of the personnel interpreting the information technology, that teamwork is the only safeguard against human error and ultimately, it is as true now as it was in the days of Captain Cook, that maintaining a proper lookout is fundamental to the safe navigation of the vessel."

QM2 is fitted with a Dynamic Positioning System (DPS) which can

control the positioning of the ship to within a few feet. It uses wind, heading, and global positioning system data to determine what combination of bow thrusters and pods will be needed to maintain the desired position. The DPS also allows the officers to use joysticks located in the center of the control console to steer the ship although the ship is often on autopilot while at sea. When going in and out of port, a wheel is still used to steer.

Life onboard

Consistent with Cunard's goal of evoking the "Golden Age of Ocean Travel," the interior of QM2 is one of sophisticated luxury. However, while there are some design ideas borrowed from earlier ships, it is not a pastiche of past ocean liners. The décor is contemporary. There are more than 5,000 commissioned works of art in the public rooms, corridors, and staterooms. While, as on QE2, there are accommodations for movie and rock stars, there are also more affordable staterooms. "We have a cross-section of society traveling onboard the ship," notes Commodore Warner. "We also have prices here to suit all pockets. I think in some aspects, people look at the QUEEN MARY 2 and say 'well, we can't afford to go on that ship' but that's not true. We provide facilities onboard the ship to suit all price ranges." With a few exceptions, passengers in the lowest stateroom category can go anywhere and use any of the facilities that passengers in the more expensive cabins can.



A string quartet plays during tea in the Queens Room ballroom. (Photo: R.H. Wagner).

During the "Golden Age" of ocean liner travel, the lines essentially left it to the passengers to entertain themselves. The lines viewed themselves as in the business of taking people from A to B, not entertainment. Aside from providing an after dinner dance band, shuffle board equipment, deck chairs, and a bar or two, the passengers were on their own and contented themselves with talent shows and egg and spoon races. Perhaps, this is why there were so many shipboard romances.

Fortunately, QM2 departs from the ocean liner model in this respect. Among other things, the ship offers lectures provided by Oxford University, a full size planetarium, acting lessons from the Royal Academy of Dramatic Arts, computer instruction, and a large library. For those more inclined to the physical, there is a golf simulator, a large gym, pools, and various other forms of sporting equipment. There are also shows, movies, and live music in the disco, the English pub, and in the other bars and lounges. Of course, as on all modern passenger ships, there is a very busy casino.

While there is an active cruise staff organizing activities, no one chases after the passengers to participate. Moreover, there is ample space to be by oneself. Even though 2,600 passengers may seem like a lot, they are spread out over a very large area. Consider that in approximately the same physical space, FREEDOM OF THE SEAS has 4,400 passengers. CROWN PRINCESS carries about the same number of people as QM2 but is only about 75% the size of QM2.

At the same time, QM2 has approximately the same number of officers and crew as FREEDOM OF THE SEAS and CROWN PRINCESS. This higher passenger to crew ratio should translate into better service. However, there were problems when the ship first went into service. As Commodore Warner explains: "We'd be the first to admit that when the ship first came out, we weren't as hot in the service area as we should have been. Everyone is now telling me that is the area in which we have improved dramatically. I think we now provide a very good five-star service for the passengers. I think it was a general change in management of the hotel in the ship, in the way things were done. When the ship first came out perhaps Cunard weren't used to operating a ship of this size. That has been developed bringing in people with experience in big ships."

Indeed, while QE2 was a big ship when she entered service in 1969, by 2004, she was at best an intermediate-size passenger ship, dwarfed by the mega-cruise ships of other lines. Moreover, her technology was advanced 1960s technology, not the 21st century technology built into QM2.

Accordingly, Carnival placed Cunard under the same management as its Princess and P&O subsidiaries, which, *inter alia*, allowed officers and hotel staff who had experience on the mega-cruise ships of those lines to serve on QM2. Meanwhile, Cunard officers and hotel staff were rotated to Princess and P&O ships to gain experience with large ships and larger numbers of passengers.

This does not mean that QM2 is merely a Princess ship in Cunard livery. "They have always been very keen to maintain the Cunard brand. I believe that that is being upheld and it is very important to the company that it is. About five years ago, I had Micky Arison [Carnival CEO] on the same ship with me for five days and we had a long chat about this sort of thing. He is very keen to maintain the brands of all his different companies and he doesn't want to change them because each one has its particular following. I think the company operates more efficiently yet maintains its traditions."

As a result, the former Princess officers had to learn Cunard traditions such as mixing with the passengers. "I enjoy those traditions. When the ship is operating on the North Atlantic, if the weather is good, fine weather, not too rough and not any fog, it gives me the opportunity to do that. On cruise ships where they are much closer to land much of the time, maybe they don't have that opportunity. On here, it is great to have those traditions and I have met some very lovely people."

This cross-pollination as well as the difference in size and amenities ensured that QM2 developed an identity different from its famous running mate, QE2. "Whenever I speak to passengers from the QE2 who come here and taste

this ship, I say to them: 'Take this as a Cunard transatlantic liner but please don't try to compare us in style to the QE2 because we do definitely have our own feeling on here onboard this ship.'

Another factor that has improved the QM2 experience has been the shift from using the Manhattan Passenger Ship Terminal to the Brooklyn Cruise Ship Terminal. "The Brooklyn terminal is a first class facility for people boarding and leaving the ship whereas in Manhattan, it certainly was not. It is also an easier area for the ship to berth. We don't need to use tugs as often as we did in Manhattan. I mean to get into those slots in Manhattan, one did need to use tugs. They have produced a very fine facility [in Brooklyn] there for us. Plans are afoot to continue to develop the area. It is an efficient facility. It is a proper terminal for the ship which is important. I don't think the Manhattan piers were big enough for the ship and I don't think it created the right impression for passengers coming onboard the ship. There is no doubt about it, the terminal at one end or the other can spoil the whole [voyage]. You can have a lovely time but you get so cross getting off that you just leave the ship angry. That's not something we want. We want the people leaving the ship relaxed and saying 'That was good, let's book another cruise or whatever it is.'"

All the emphasis on the fact that the ship is an ocean liner, tends to obscure the fact that she also does cruises. Her schedule includes cruises to Canada/New England, the Bahamas, the Mediterranean, Germany, the North Cape of Norway, and the Caribbean. This winter, she is doing a world cruise. However, next winter, she will be sailing from New York to the Caribbean on a

series of 10-day cruises. The ship's speed enables her to do itineraries that other slower cruise ships cannot. Her maneuverability allows her to visit ports where there are few tugs. Her modern technology enables her to do cruising in an efficient and enjoyable manner.

Still, QM2's home is the Atlantic. "We certainly still have a tremendous following on the Atlantic. It is an experience that is different to any cruise. We have people who continually come back here. People who are crossing the Atlantic are looking for all sorts of different things. Some of them are traveling from A to B, some of them are traveling on the ship because they don't want to fly, some of them are here because they want to go visit people in the other country, some of them are here just because they want to have a whale of a time on holiday. And the ship is full most of the time traveling the Atlantic. Whether there will ever again be room for two making the schedule as they did in the past, I would rather doubt. But, I think there will always be a place for one to do the transatlantic."