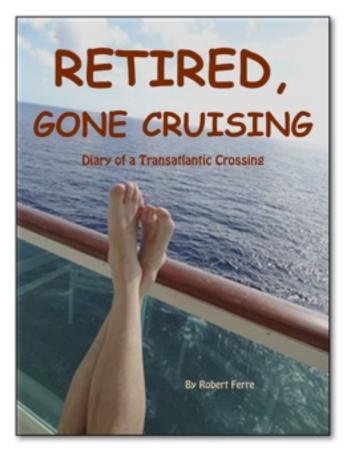
## PART VII: RUNNING THE SHIP

As part of a behind-the-scenes tour, I ended up with 13 others on the bridge, the place from which the captain and the other officers "drive"



the ship. The bridge dates to the 19<sup>th</sup> century side-wheel ocean-going steam-powered vessels, which had a paddle wheel on each side of the ship. To see the paddle wheels and the sides of the ship, a platform was built that extended outward, like wings, sticking out from the ship for improved vision. It literally "bridged" both sides of the ship, leading to its name.





The ship is 126 feet wide, so the bridge must be 150 feet or so from end to end. There are several work stations on the bridge, each featuring a particular set of instruments, computers and monitors. The above photo shows half the bridge.

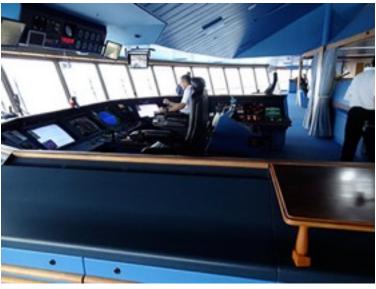
The Master of our ship was Captain Flemming B. Nielsen, who worked on freighters and later cruise ships after leaving the Danish navy. When not at sea (he works ten weeks and then gets ten weeks off) he now lives in Arizona, a curious location, far from any ocean. The captain personally explained the instruments and showed us around, something he does for groups at least once a week. He is very personable.



The cockpit (right) is the main control center. The electronics are quite impressive, yet, if necessary, the ship could be controlled completely manually,



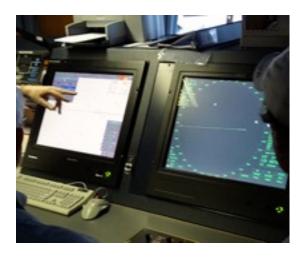
On each bridge wing is a redundant set of controls used when docking (left). Above is the photo I took from the bridge wing, looking at the side of the ship. It was raining.







assuming, of course, it had propulsion. Twenty four hours a day, two spotters do nothing but take turns visually scanning the sea and the horizon for any obstacles in the water, other ships, distress signals, whales, or any other circumstance that would affect the ship. Once they saw red signal flares and went to the aid of a yacht that had been struck by lightning.





On the left, radar and a plotter indicate our location and that of other ships in the area. The progress of the cruise is marked and dated by hand on a chart (above, right). The chart was auctioned off for charity at the end of the cruise, going for \$2,000.



Yes, that's me in the captain's chair (right). I raised my hand and ordered, "Make it so," but no one seemed to notice. At the front of the ship (left) is a helicopter pad in case emergency medical evacuation is necessary.





Meanwhile, down on Deck 0, the Chief Engineer is the one who instigates the orders received from the bridge. His vast array of instruments monitor and control everything in the ship, from the six engines to every sprinkler head, fire doors, smoke alarms, water supply, electrical power, and more. With a ship of this size, think of the hundreds of miles of wiring required for these instruments. How did they ever keep it all straight? From the stairs, I have noticed that between several decks is a space about five or six feet high. That must be where all of the pipes and cables and wires are located, and accessible.

We didn't get to see the engine room, so I took a photo of it in one of the monitors (right). Note how spotlessly clean it is. The engines power six generators that produce 75 kilowatts of electricity, enough for a city of 50,000 people. This runs the propulsion system, desalinates 250,000 gallons of water a day, and provides all of the lights and power for operating the ship.

Two of the three propellors are azipods, which can turn 360 degrees, a full circle, propelling the ship in any direction. Add the bow thrusters, and the ship can go directly sideways when docking.

Notice the outline of one of the ship's decks in the monitor to the right. When a smoke detector goes off, for example, the sprinkler system does not automatically come on, as it could have been caused by a hair dryer or steam from the bathroom or something else. Someone calls and investigates to determine the situation.

If one sprinkler goes on, it is only at low pressure. If it is determined to be necessary, the pressure increases to 1,500 pounds per square inch (p.s.i.), which can cover the whole area in mist. Once fire doors are closed,





huge ventilators evacuate the smoke quickly, as it can be more deadly than flames. Fire is one of the greatest destructive forces of ships, next to crashes and war (torpedoes). A highly-publicized fire in a Carnival cruise ship off the coast of Mexico left the entire ship derelict. The fire apparently disabled the electrical system. So, no system is fool proof, but the precautions are impressive. With so many lives at stake (4,200 on this ship, including crew), we would expect nothing less. Just the loss of air conditioning would make the ship barely habitable. In the book, I go into more detail about the lengths to which cruise companies go to protect the ship and its passengers. Many of the activities, such as lifeboat drills for both passengers and crew, have been prescribed by maritime law following a disaster caused by the lack of same. Every cruise I happily go through the same routine lifeboat drill, locate my life jacket, have my medicines and a flashlight handy, plot out the best escape route, and generally try to stay aware.







On Deck 0, the main crew corridor is called I-95, not from the famous interstate highway, but from an immigration form filled out by all crew before entering the United States. There are many signs in the hallway encouraging safety, etc., such as the one above, which has a very oriental ring to it. We didn't go into the crew areas, but we saw a corridor leading to the doors to their rooms (right). Once very abusive, cruise companies have now discovered that it is good economics and good business to take care of the crew, to keep them healthy and happy, not that they pay them very much.



The laundry was impressive (loading a folding machine, left) in its scale, doing eight tons of laundry a day -- all of those towels, tablecloths, napkins, etc. The galleys (kitchens) comprise acres of stainless steel equipment over several decks. Below right are the huge soup cookers. In a week, the chefs prepare fifty tons of fruits and vegetables. Including crew, they fix 105,000 meals a week. More curious are the number of desserts (300,680) and appetizers (234,000) prepared in a week, more than one per meal. Ah, cruise ships.



End of Part VII. There are eight parts.

