SONAR, só'nár, is a system for sending or receiving underwater sounds, generally to detect an object or to determine its direction (bearing) and distance (range). The word is an acronym of SOnund Navigation And Ranging.

Kinds of Sonars. There are two main kinds of sonars. An active sonar system transmits underwater sound pulses and later receives the echoes from a distant submerged object that has reflected some of the transmitted energy. Thus an active sonar is the underwater acoustic counterpart of radar. Small hand-held echo-ranging sets used by swimmers and large sonar systems used on ships are active sonar systems.

A passive sonar system only receives underwater sounds. It is used to detect and identify a distant source of sound, such as a moving submarine or a school of sound-producing fish. Sonobuoys and arrays of hydrophones are passive sonar systems. See also HYDROPHONE.

How Sonar Works. A key component of a sonar system is called a transducer. In an active sonar, the transducer is a large array of piezoelectric elements. Waves are applied to the transducer, which converts electrical energy to acoustic sound and radiates sound pulses into the water. The echo from an underwater object to the transducer, it converts the acoustic energy to electrical energy. In this way, the transducer is used only to amplify the received sound waves.

The sounds received by the transducer are amplified and then made evident to a means of a display. There are various types of displays, including head-up displays, recorder charts, and computer screens.

Military and Civilian Uses. Since World War II, sonar systems have been used primarily in vessels for hunting submarines or detecting targets, or in navigating to avoid collisions. Naval aircraft also use sonars to detect submarines. This is done by dropping sonobuoys into the sea to receive underwater sounds. Each sonobuoy is a compact package containing a transducer, amplifier, and a small radio communication from the aircraft.

Other military sonars can now detect submarines at ranges far greater than those that were obtainable in World War II. In addition, military sonars can now operate in waters ranging from as low as a few feet to a thousand feet.

Civilian uses of sonar have been particularly popular because of man's increasing need to understand and explore the resources of the sea. For instance, sonar systems are used to detect oil deposits, locate underwater obstacles, and map the ocean floor. Sonar is also used in mining, archaeology, and even in the search for missing persons.

SOMOZA, só-mó'sá, Anastasio (1896–1956), president of Nicaragua, whose two sons also succeeded to the presidency. Somozas, nicknamed Tacho, was born in San Marcos, Nicaragua, on Feb. 1, 1896. The son of a wealthy coffee planter, he was educated at the Instituto Nacional de Oriente in Granada in Nicaragua and the Pierce School of Business Administration in Philadelphia, Pa. He married the daughter of a family important in Nicaraguan politics. His ability, energy, and family connections won him ever higher positions until, in 1933, he became head of the National Guard, Nicaragua's only armed force. After a revolution deposed President Juan Bautista Sacasa in 1936, Somozas was elected president, although he was theoretically ineligible as head of the National Guard and as a relative of the acting president.

From his inauguration on Jan. 1, 1937, until his death, he dominated the political life of Nicaragua by commanding great political talent with the judicious use of force. His opponents accused him of being a dictator. He became one of the richest men in Central America, with an annual income estimated at one million dollars. He served as president in 1937–1942 and 1950–1956 (controlling the country as commander of the National Guard during the presidency in 1947–1950 of his uncle Victor M. Romaní y Reyes), and he was nominated for another presidential term on Sept. 21, 1956. That night Rigo­berto López Pérez, a 27-year-old idealist, shot him. He died in a U.S. military hospital in the Panama Canal Zone on Sept. 29, 1956.

Somozas was succeeded by his eldest son, Luis, who was president from 1956 to 1963. In 1963 a puppet president, René Schick Gutierrez, was installed. When Luis died in 1967, his younger brother Anastasio became president. In July 1979, after he had alienated large segments of the population, he was forced to resign and flee into exile in Miami, Fla. On Sept. 17, 1980, he was assassinated in Asunción, Paraguay.

HARRY KANTOR
Author of "Patterns of Politics and Political Systems in Latin America"

SON ET LUMIERE, sōn á lu-myər', a popular form of entertainment and instruction that uses modern techniques of sound reproduction and lighting to display architectural treasures and dramatize major historical events. The term is French, meaning "sound and light."

Son et lumière was introduced in France in 1952 by Paul Robert-Houdin, curator of the Château of Chambord, one of the great Renaissance castles of the Loire Valley. He conceived the idea of sound and light spectacles after witnessing the dramatic effects of flashes of lightning upon Chambord during a thunderstorm in 1950. Consequently he arranged at Chambord a son et lumière entertainment in which he combined music and narration with skillful lighting in order that his audience should be both dazzled and instructed by the historical importance and beauty of a national monument.

During the next few years son et lumière programs spread rapidly in France and elsewhere, becoming major tourist attractions. They were introduced at the Acropolis in Athens in 1959, at the Pyramids of Egypt in 1959, at Independence Hall in Philadelphia in 1962. Another American production is at Boscobel, an 18th century house in Garrison, N.Y.
system is called a transducer. In an active sonar, the transducer is a large array of piezoelectric or magnetostrictive elements. When electric pulses are applied to the transducer, it converts the electrical energy to acoustic (sound) energy and radiates sound pulses into the water. When the echo from an underwater object impinges on the transducer, it converts the acoustic energy of the echo to electrical energy. In a passive sonar, the transducer is used only to receive sound.

The sounds received by the transducer are amplified and then made evident to an observer by means of a display. There are various kinds of display devices, including headphones, loudspeakers, recorder charts, and cathode-ray tubes.

Military and Civilian Uses. Since World War I, sonar systems have been used primarily by naval vessels in hunting for submarines or mines, for instance, or in navigating to avoid underwater obstacles. Naval aircraft also are used for locating submarines. This is done by dropping sonobuoys into the sea to receive underwater sounds. Each sonobuoy is a compact package containing a transducer, amplifiers, and a small transmitter for radio communication from the sonobuoy to the aircraft.

Other military sonars can now detect enemy submarines at ranges many times greater than those that were obtainable in World War II. Also, military sonars can now operate at frequencies ranging from as low as a few hertz to about one million hertz.

Civilian uses of sonar have been expanding rapidly because of man's increasing desire to understand or exploit the resources of the seas. For instance, sonar systems now are used as fish finders, seafloor depth sounders, beacons for pinpointing undersea locations, and instruments for determining a ship's speed over the sea bottom.

See also Sound; Ultrasonics.

Robert J. Urick
Naval Ordnance Laboratory

SONATA, so-nat', in music, an instrumental composition, usually of three or four movements, of which the first is in the sonata-form. Although often related in key, the movements are independent, differing from one another in such aspects as structure, rhythm, tempo, and mood. The name "sonata" is given only to those works that are written for solo piano or for solo wind or stringed instruments, generally with keyboard accompaniment. However, all instrumental compositions that follow the sonata pattern, whether chamber works, symphonies, or concertos, are, in effect, sonatas, though they are known by different names. The name is generally determined by the kind of ensemble—trio, quartet, quintet, or, for an orchestra, symphony.

Sonata-Form Movement. The classical sonata, developed in the 18th century by Haydn and Mozart and perfected in the 19th century by Beethoven, opens with a movement known as the sonata-form movement. There are three main sections in the sonata-form movement: exposition, development, and recapitulation, some-
Heggen, Thomas, 1919-1949

Mister Roberts / by Thomas Heggen, illustrated by Samuel Hanks Bryant


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Record 1 of 3
There were fourteen officers on the Reluctant and all of them were Reserves. Captain Morton was a lieutenant-commander, and on the outside had been in the merchant marine, where he claimed to hold a master's license. Mr. LeSueur, the executive officer,
also a lieutenant-commander and also ex-merchant marine, swore that the Captain held only a first mate's license. Mr. LeSueur was a capable man who kept to himself and raged against the Captain with a fine singleness of purpose. The other officers represented the miscellany of pre-war America. Ensign Keith and Ensign Moulton had been college boys. Lieutenant (jg) Ed Pauley had been an insurance salesman. Lieutenant Carney had been a shoe clerk. Lieutenant (jg) Langston had been a school-teacher. The new mantle of leadership fell uneasily upon these officers. Most of them, feeling ridiculous in it, renounced the rôle altogether and behaved as if they had no authority and no responsibility. Excepting Mr. LeSueur, excepting categorically the Captain, and excepting the Doctor as a special case, there was only one of these Reserves who successfully impersonated an officer, and he least of all was trying to. That was Lieutenant Roberts. He was a born leader; there is no other kind.

Lieutenant Roberts was the First Lieutenant of the Reluctant. The First Lieutenant of a ship is charged with its maintenance; he bosses the endless round of cleaning, scraping, painting, and repairing necessary to its upkeep. In itself the job is a considerable one and in this case the only real one on the ship but Roberts had yet another job: cargo officer. That was one hell of a job. Roberts was out on deck all the time that the ship was working cargo, and whenever there was a special hurry about loading or discharging, he could figure on three days without sleep. And all the time he was
standing deck watches, one in four, day in and out. He got very little sleep. He was a slender, blond boy of twenty-six and he had a shy, tilted smile. He was rather quiet, and his voice was soft and flat, but there was something in it that made people strain to listen. When he was angry he was very formidable, for without raising his voice he could achieve a savage, lashing sarcasm. He had been a medical student on the outside; he loathed the Captain; and all the circumstances of his present station were an agony to him. The crew worshiped him.

They really did. Devotion of a sort can be bought or commanded or bullied or begged, but it was accorded Roberts unanimously and voluntarily. He was the sort of leader who is followed blindly because he does not look back to see if he is being followed. For him the crew would turn out ten times the work that any other officer on the ship could command. He could not pass the galley without being offered a steak sandwich, or the bakery without a pie. At one time or another perhaps ninety per cent of the crew had asked him for advice. If it had been said of him once in the compartment it had been said a hundred times: ‘The best son-of-a-bitching officer in the goddamn Navy.’

The officers, who lived with Roberts as equals and could therefore judge him less emotionally, felt much the same way. Being less interdependent than the crew, the officers were correspondingly less unified, and were split into at least four definite and mutually exclusive groups. Roberts, although he allied himself
with none of these cliques, was *ex officio* a member of all, and was sought by all. It was unthinkable that Ed Pauley enter the stateroom of Carney and Lieutenant (jg) Billings, and vice versa. The Doctor’s room was forever closed to Ensign Moulton, and vice versa. Langston could sooner pass through a needle’s eye than the doorway to the room of Lieutenant (jg) Gonaud, the supply officer. All of these doors were enthusiastically open to Roberts, and to no other officer. His special friends were Ed Pauley, who had to offer an easy sociability; the Doc, who offered that plus intellectual comradeship; and Ensign Pulver, whose contribution was hard to define. Ensign Pulver thought that Roberts was approximately God, and admired equally and uncritically everything that he did. He was almost shameless in the way, literally and figuratively, that he dogged Roberts’s footsteps. Without ever inviting one or desiring one, Roberts had acquired a disciple.

The only enemy Roberts had was the Captain, who hated his guts. Ed Pauley kept in his room a small chart that listed all of the officers and after their names varying numbers of blue and red crosses. A blue cross represented a direct threat or insult from the Captain, and counted two red crosses. A red cross stood for an insult or slander from the Captain delivered second-hand to someone else. And on this chart Roberts’s name led all the rest, even though his record consisted almost entirely of the red crosses representing hand-me-down calumny. The Captain had a noticeable reticence about upbraiding Roberts to his face.
The annotated Hunting of the snark: the full text of Lewis Carroll's great nonsense epic The hunting of the snark / original illustrations by Henry Holiday; edited with a preface and notes by Martin Gardner ; introduction by Adam Gopnik.


Definitive ed.

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<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>AA</td>
<td>Antiaircraft</td>
</tr>
<tr>
<td>AK</td>
<td>Navy cargo ship</td>
</tr>
<tr>
<td>AKA</td>
<td>Assault cargo ship</td>
</tr>
<tr>
<td>AO</td>
<td>Oiler. Naval ship designed to carry and transfer fuel to other Navy ships. Similar to a tanker.</td>
</tr>
<tr>
<td>AP</td>
<td>Navy personnel transport</td>
</tr>
<tr>
<td>APD</td>
<td>Destroyer transport</td>
</tr>
<tr>
<td>ASW</td>
<td>Antisubmarine warfare</td>
</tr>
<tr>
<td>Barbette</td>
<td>The armored cylindrical base of a turret</td>
</tr>
<tr>
<td>BB</td>
<td>Battleship. Most powerful type of major surface warship, 25,000–60,000-ton displacement, main battery of 12&quot;–18&quot; turret guns, heavy secondary and AA batteries, heaviest armor, 2–4 float planes, 21–33 knots, very long range.</td>
</tr>
<tr>
<td>Bogey</td>
<td>Unidentified aircraft</td>
</tr>
<tr>
<td>CA</td>
<td>Heavy cruiser. A major warship, 8000–15,000-ton displacement, medium armor, 8&quot; Main Battery, heavy dual-purpose secondary battery, numerous AA machine guns, 2–6 float planes, 25–35 knots, long cruising range.</td>
</tr>
<tr>
<td>CAP</td>
<td>Combat Air Patrol</td>
</tr>
<tr>
<td>Capt.</td>
<td>Captain. A naval rank. Also the title of the individual officer commanding a ship, regardless of his rank.</td>
</tr>
<tr>
<td>CIC</td>
<td>Combat Information Center</td>
</tr>
<tr>
<td>CinCPac</td>
<td>Commander-in-Chief, Pacific</td>
</tr>
<tr>
<td>CinCUS</td>
<td>Commander-in-Chief, U.S. Fleet</td>
</tr>
</tbody>
</table>
CL Light cruiser. A major warship, 6000–12,000-ton displacement. Similar to a CA except for 6" Main Battery and lighter armor.

CLAA Anti-aircraft light cruiser. A major warship, 5000–6000-ton displacement. Similar to a CL except for 5" dual-purpose Main Battery and very light armor, and no float planes.

Command An official order. Also an entity to be commanded
Commander, Comdr. A naval rank. Also the individual in command, regardless of his rank
Command Pennant A special pennant identifying the ship in which a Commodore is embarked
ComAirSols Commander, Air Forces, Solomon Area
ComAirSoPac Commander, Air Forces, South Pacific Area
ComCruDiv Commander, Cruiser Division
ComDesDiv Commander, Destroyer Division
ComDesPac Commander, Destroyer Pacific Fleet
ComDesRon Commander, Destroyer Squadron
ComMinRon Commander, Mine Squadron
ComSoPac Commander, South Pacific Force
ComTransDiv Commander, Transport Division
Commodore Title assumed by an officer of any rank below flag rank (Admiral) who commands a group, usually a squadron or division, of warships. Not used as a personal rank in the U.S. Navy during the period covered in this work.

Condition A or "Able" The highest condition of material readiness during which all watertight doors and fittings are closed and only essential ventilation and other services are permitted throughout the ship.

Condition B or "Baker" A wartime "cruising" condition of material readiness during which watertight integrity is relaxed sufficiently to permit normal living and operational activities.

Condition I See GQ
Condition II A watch condition during which half the armament is manned and ready
Condition III A watch condition during which one-third of the armament is manned and ready
Conn Control of the course and speed of a ship
CTF Commander, Task Force

CV Aircraft carrier. A major warship, 10,000–45,000-ton displacement, medium armor, with flight deck and facilities to support and operate 40–110 naval aircraft, heavy secondary gun battery, usually dual purpose, many AA machine guns, 25–35 knots, very long range.

CW Continuous wave. A type of radio transmission, normally using dots and dashes in the Morse Code.

DC Damage Control, also depth charge

DD Destroyer. A major warship, 1000–4000-ton displacement, unarmored, Main Battery of 4–6 dual-purpose guns (usually 5"), torpedo battery of 5–16 ready torpedoes, numerous heavy machine guns, antisubmarine detection gear and depth-charge battery, 30–40 knots.

DesDiv Destroyer Division
DesRon Destroyer Squadron
Division An organizational unit of ships, aircraft, ship’s crew, or troops
DM Destroyer minelayer
DMS Destroyer minesweeper
DR Dead-reckoning. Estimating a ship’s position by projecting its course and speed from a known position.
DRT Dead-reckoning tracer. A mechanism by which a pen is driven automatically from ship’s course and speed inputs to trace the track of a ship on a chart or other paper.

Exec Executive officer. Second in command.

FC Type of fire-control radar used on directors capable of surface fire only

FD Type of fire-control radar used on dual-purpose directors such as the Mk-33 or Mk-37

Fighter Director Individual controlling fighter aircraft by radio from a remote location aboard ship or ashore, usually from radar information

5"/38 U.S. Navy gun of five-inch bore diameter, 38 calibers long

Flag officer An admiral or a general officer of any grade
Flagship A ship in which the commander of a force or organization of ships is embarked

Flotilla An organization of two or more squadrons of ships

General Signal Book Master book used throughout the fleet containing defini-
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Definition</th>
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<tbody>
<tr>
<td>GQ</td>
<td>General Quarters. Condition I, all battle stations manned.</td>
</tr>
<tr>
<td>Gun</td>
<td>A naval rifled cannon, size of which is designated by the inside diameter of the bore in inches (the caliber), and the length of the bore measured in calibers.</td>
</tr>
<tr>
<td>JA phone</td>
<td>Captain's command SP telephone circuit.</td>
</tr>
<tr>
<td>JOOD</td>
<td>Junior Officer of the Deck.</td>
</tr>
<tr>
<td>Kcs</td>
<td>Kilocycles.</td>
</tr>
<tr>
<td>Knot</td>
<td>Nautical unit of speed, equal to one nautical mile per hour.</td>
</tr>
<tr>
<td>LCI</td>
<td>Landing craft, infantry.</td>
</tr>
<tr>
<td>LCM</td>
<td>Landing craft, mechanized.</td>
</tr>
<tr>
<td>LCP</td>
<td>Landing craft, personnel.</td>
</tr>
<tr>
<td>LCT</td>
<td>Landing craft, tank.</td>
</tr>
<tr>
<td>LCVP</td>
<td>Landing craft, vehicle and personnel.</td>
</tr>
<tr>
<td>Machine gun</td>
<td>A rapid-fire rifled gun of caliber ranging from .25&quot; to 40 mm, fed by a mechanical loading system.</td>
</tr>
<tr>
<td>Main Battery</td>
<td>The principal gun system installed on a ship.</td>
</tr>
<tr>
<td>Mile</td>
<td>The nautical mile. A distance equal to one minute of longitude at the equator and approximately one minute of latitude anywhere. Though normally defined as 6080 feet long, for tactical and gunnery purposes it is considered to be 2000 yards.</td>
</tr>
<tr>
<td>MM</td>
<td>Machinist's Mate.</td>
</tr>
<tr>
<td>MMOW</td>
<td>Machinist's Mate of the Watch.</td>
</tr>
<tr>
<td>MTB</td>
<td>Motor torpedo boat.</td>
</tr>
<tr>
<td>OOD</td>
<td>Officer of the Deck. The officer on duty in charge of the operation of the ship, normally for a four-hour watch.</td>
</tr>
<tr>
<td>Op-Order</td>
<td>Operation order. The document specifying the organization, command structure, assignment of tasks, resources to be used, and the times of execution of a planned operation.</td>
</tr>
<tr>
<td>Op-Plan</td>
<td>Operation plan. The document describing the objectives, the resources, the environment expected, and the general plan for a military operation.</td>
</tr>
<tr>
<td>OTC</td>
<td>Officer in Tactical Command.</td>
</tr>
<tr>
<td>PacFlt</td>
<td>Pacific Fleet.</td>
</tr>
<tr>
<td>PPI</td>
<td>Plan Projection Indicator (type of radar scope).</td>
</tr>
<tr>
<td>psi</td>
<td>Pounds per square inch (pressure measure).</td>
</tr>
<tr>
<td>QC</td>
<td>A type of sound gear (later called SONAR).</td>
</tr>
<tr>
<td>RCT</td>
<td>Regimental Combat Team.</td>
</tr>
<tr>
<td>RNZN</td>
<td>Royal New Zealand Navy.</td>
</tr>
<tr>
<td>SBD</td>
<td>Scout, bomber naval aircraft, made by Douglas Aircraft Co.</td>
</tr>
<tr>
<td>SC</td>
<td>A type of U.S. Navy air-search radar.</td>
</tr>
<tr>
<td>Scuttle</td>
<td>To sink a ship by flooding it. Also a small light and weather lock through which to pass ammunition.</td>
</tr>
<tr>
<td>Section</td>
<td>A subdivision of a division, usually two ships.</td>
</tr>
<tr>
<td>SG</td>
<td>A type of U.S. Navy surface-search radar.</td>
</tr>
<tr>
<td>6&quot;/47</td>
<td>A naval gun of six-inch bore, 47 calibers long.</td>
</tr>
<tr>
<td>SOC</td>
<td>Scout, Observation naval aircraft, made by Curtiss Aircraft Co.</td>
</tr>
<tr>
<td>SOPA</td>
<td>Senior Officer Present Afloat.</td>
</tr>
<tr>
<td>SoPac</td>
<td>South Pacific Area.</td>
</tr>
<tr>
<td>SP telephone</td>
<td>Sound-powered telephone—no source of power required other than the speaker's voice.</td>
</tr>
<tr>
<td>Squadron</td>
<td>An organization of two or more divisions of ships or aircraft.</td>
</tr>
<tr>
<td>TBS</td>
<td>“Talk between ships.” The standard type of voice-radio set used for intership communication throughout the fleet.</td>
</tr>
<tr>
<td>TF</td>
<td>Task Force.</td>
</tr>
<tr>
<td>TG</td>
<td>Task Group.</td>
</tr>
<tr>
<td>Ton, tonnage</td>
<td>In nautical usage the long (metric) ton of 2240 pounds is used for measuring weight. The displacement tonnage mentioned in the text is Standard Displacement, a special measure used in treaties for comparing warships, which excludes certain consumables such as fuel. Full Load tonnage, the actual displacement of an operating warship, is usually about 20 percent greater than Standard tonnage. For merchant ships, Gross Registered Tonnage (the tonnage reported in sinkings by submarines) is used, which is an arbitrary number intended to indicate the maximum cargo capacity of the ship.</td>
</tr>
<tr>
<td>TransDiv</td>
<td>Transport Division.</td>
</tr>
<tr>
<td>TU</td>
<td>Task Unit (subdivision of a Task Group).</td>
</tr>
<tr>
<td>Turret</td>
<td>The rotating portion of an armored gun installation that contains the guns.</td>
</tr>
</tbody>
</table>
As daylight crept into the Solomons on the morning of the third of December 1942, a part of the shadowy mass on the west side of McFarland Channel north of Tulagi Island began to detach itself from the jungle. The shape was incongruous with the rounded forms of huge tropical trees and tangled mangrove, but the colors and shadows blended well. As the light improved, the mass seemed to show the outline of ships—three ships in fact.

The motor torpedo boat mothership USS Jamestown (AGP-3) was moored solidly to the trunks of half a dozen jungle giants bordering the bank where the land dropped off into the deep water of the channel. USS New Orleans (CA-32), one of America’s most powerful heavy cruisers, with her bow blown off to the face of her number 2 triple eight-inch turret, was similarly moored just aft of her. Outboard of New Orleans, with guns pointed skyward at "Air Ready," lay our ship, USS Maury (DD-401), a single stack, 1500-ton fleet destroyer.

Camouflage nets had been stretched from the tops of the closest trees ashore over the superstructure of all three ships and fell to the water’s edge outboard of Maury. From the surface an observer could see the lower hulls and waterlines as well as the several smaller craft alongside or moored to
Shipbuilder’s photograph of USS Maury (DD-401). U.S. Navy photo

the bank nearby, but we hoped that from the air the nested ships would look like just another protrusion of the jagged coastline of Florida Island.

We were supplying steam and electricity to the damaged cruiser while her crew and a swarm of repair experts from the base on Tulagi Island were struggling to clear the debris left by the titanic explosion of a Japanese torpedo. Because we had been moved forward along the cruiser’s side so the steam and electrical connections would match up, Maury’s bridge was forward of the cruiser’s bridge and from my station as gun control officer atop the gun director I could look directly down into the tortured wreckage. Wires, pipes, ventilation ducts, scorched and crumpled plates and girders were all tangled together and coated with a sheen of fuel oil. There was no blood and gore evident, but I hesitated to look too closely. Oil fumes, combined with the bitter odor of burned rubber, added to the pungent odors of the drenched jungle and the mangrove-covered mud flats.

The wreckage aboard the cruiser had to be cleared before work could proceed to make New Orleans watertight and strengthen her shattered structure. Her engineering plant was intact, but her no. 8 propeller had a blade knocked off and two other blades were bent when her severed bow scraped down her port side, grooving her hull and punching a couple of holes through the plating.

We had helped her into Tulagi Harbor after the battle and used our anchors for both ships, since she had lost hers with her bow. When it was decided to move her up McFarland Channel to be hidden against the jungle, we remained alongside as a tugboat to help her maneuver up the channel. Once she was settled in her berth next to Jamestown we thought our duties as nursemaid were over, but Rear Adm. Carleton H. Wright, commander of our Task Force 67, instructed us to remain alongside to support her. His flagship, USS Minneapolis (CA-36), had also had her bow blown off, just forward of Turret I, and she lay moored to the beach a half-mile down the channel, similarly camouflaged and tended by the seagoing rescue tug USS Bobolink (ATO-31). Heavy cruiser USS Pensacola (CA-24), still listing heavily to port, with a huge hole in her after engineering room and her after superstructure demolished by fire, was anchored in the middle of the harbor. Heavy cruiser USS Northampton (CA-26) was missing altogether; she had been sunk during the battle. Only USS Honolulu (CL-48) of our cruisers had escaped damage, and she had retired south to Espiritu Santo.

All hands topsides were scanning the sky during the predawn precautionary General Quarters (GQ). The guns of New Orleans and the other two damaged cruisers were of uncertain value because the shock of the torpedo explosions almost certainly would have knocked them out of alignment, but Maury’s four five-inch guns and six 20mm machine-guns were fully operational and, if necessary, we were prepared to shoot through the camouflage netting.

The nets had been kept clear of our Mk-83 Main Battery Gun Director where I was stationed. The director was a nearly cubical aluminum structure containing the vital fire-control instruments for the five-inch battery and the 10 men needed to operate them. It was turning slowly right and left, searching the hills and shoreline with powerful optics. I stood with my head and shoulders sticking up out of the control officer’s hatch in the top after corner, scanning the sky with my binoculars.

Firecontrolman Third Class (FCs/c) R. G. “Spider” Serwetz, the Director Trainer, controlling the director’s motion in the horizontal plane, stopped abruptly and blurted, “Wow! Look at that babe!” FCs/c W. F. “Bill” Snyder, Director Pointer, who stood next to me with his head out of his hatch looking for aircraft, dropped down into his seat and screwed his eye to his eyepiece to see what Serwetz was looking at. FC1/c J. H. “Long John” Canaday, Rangefinder operator, stationed front and center in the director and looking through the superior optics of the 10-foot stereo Rangefinder, added with his wry sense of humor, “Man! Ain’t she something!”, teasing the half-dozen men inside the director who had no means of seeing. I lowered my binoculars and followed the shoreline to see what Serwetz had found.
Meanwhile, the successive battles near Savo Island had depleted the destroyer force, so after helping to escort the wounded carrier back to Noumea for repairs, Maury had been sent forward to join TF-67 at Espiritu Santo and arrived just in time to participate in the fierce action off Tassafaronga on the night of 30 November.

As the direct rays of the sun finally touched the director, my musing was interrupted by the ship's speakers blaring, "Secure from General Quarters, Set Condition III, at-sea watches. Set Condition Baker." Though moored alongside the damaged cruiser and trapped under the camouflage nets, Capt. Gelzer Sims wanted to be ready to get underway and get to sea as quickly as possible. He ordered "steam to the throttles" and if this meant keeping steam ing watches on two boilers and "jacking" the engines to keep the turbines from warping, so be it. "At-sea" watches were maintained on the bridge and at all gun and control stations. "In port" functions at the quarterdeck would be handled by the boatswain's mate of the watch.

The men of the director crew doffed their helmets and stowed them by their lifejackets, which lay next to their stations—there wasn't room inside the director to wear a lifejacket while operating the equipment. Chief Copeland's section had the first watch, with Serwetz on the Rangefinder and a couple of storekeepers coming up from below to fill out the minimum crew required for Condition III, but Serwetz whined, "Gee Chief, can't I go below for a quick head call and wash my face before going on watch?"

The chief gave him a disapproving glance and replied, "Well, if you're willing to stick your hands into a mess like that, go ahead. But make it quick!"

Since the director crew had to be complete to operate, Yeoman 2/c George South, Director Leveler at GQ, replaced him while the swarthy firecontrolman squeezed out of the director, dropped to the top of the Pilot house, skinned down the vertical ladder to the bridge level, rattled down the inclined ladder between the flagbags hitting the superstructure deck just forward of the mast, turned and slid down the next ladder to the forecastle deck, turned and ran aft inboard of the whaleboat, and dropped to the main deck by one more ladder. He raced aft past the uptakes and the machine shop, across the quarterdeck, past the torpedo mounts and the "torpedo shack," and entered the after superstructure where the Crew's Head and Washroom was located.

The Crew's Head and Washroom was full of men, some in a hurry. There were three showers and six lavatories in the washroom, but Serwetz's objective was the crew's "Head," a pair of metal troughs with saltwater gushing through under four seats each side, spanning the troughs at 30-inch inter-
vals and separated by chest-high “privacy shields” between the seats. The three crew’s urinals were in the next compartment aft. He had to wait, but not for long—laggards weren’t tolerated in a destroyer’s head.

Maury’s crew, of the rates of petty officer first class and below, lived in the after third of the ship in four crew’s compartments on the first platform deck, one level down from the main deck. The largest of these compartments was entered by a double inclined ladder dropping down from the gun crew shelter, the last compartment in the after deckhouse. There were water-tight doors between the compartments and emergency escape hatches in all of them.

Crew’s bunks consisted of heavy canvas rectangles six feet long and two feet wide, lashed inside pipe frames, which in turn were supported on the “in” side by sturdy vertical stanchions fixed to the deck and to the overhead, and on the “out” side hung by chains from the overhead structure. Each bunk had a thin mattress, a white cotton mattress cover, a blanket, a pillow, and two bunk straps to hold things together when the seas were rough. Bunks were stacked three or four high, depending on the space available, and each man had a vertical locker two feet high, two feet wide, and 15 inches deep. There was a vertical locker for every bunk, but there were also a few transom lockers under the bottom bunks.

The ship originally had ample portholes in all sleeping compartments to ensure good ventilation, but those below the main deck had been welded over as a damage-control measure, so in the tropics any man with a bunk within range of one of the several electric fans attached to the bulkheads was considered lucky.

The crew was organized into six divisions, and each division had its own bunking area. The Engineer Division, composed of men of the rates of Machinist’s Mate, Watertender, Electrician, Shipfitter, Carpenter, and Fireman, all popularly known as the “snipes,” was housed in the largest compartment. The Gunnery Division contained the Gunner’s Mates, Fire-controlmen, Torpedomen, and their “strikers.” The Communications Division contained all the Signalmen, Quartermasters, Radio men, Soundmen, and their assorted strikers. The Commissary and Supply Division had all the supply types such as the Cooks, Bakers, Storekeepers and their strikers, plus the Officer’s Cook, Steward, and Mess Attendants. The Executive Division contained Yeomen, Pharmacist’s Mates, Chief Master-at-Arms, and other odds and ends. Finally there was the Deck Division, whose men were sometimes referred to behind their backs as the “deck apes,” which in addition to the professional Boatswain’s Mates, Crossswains, and Seamen who handled the deck gear, lines, rigging, boats, and other “marlin spike” seamanship, was the training ground for new recruits before they got their sea legs and learned enough to become strikers for some other rate.

Serwetz had to drop down to his locker in crew’s quarters to get his soap, toothbrush, and towel before completing his quick refreshment. Nevertheless, he was back in the director before Copeland lost his temper. After all, the whole watch would be relieved by the Second Section as soon as its members had finished breakfast.

The bakers had been at their trade since 0400 and the cooks had been in the Galley almost as long. The key men of both rates were assigned battle stations in the Galley because the crew needed food regularly, no matter how long GQ might last. In addition, enough cook strikers and messcooks (regular crewmen assigned special duty to assist in the food preparation, serving, and cleanup afterwards) were released early from their battle stations to be sure everything was ready when chow was “piped down” at 0700.

The laundrymen in their tiny space abaft the Galley had been working through the night, too. The single washing machine and its companion dryer had to be operated continuously to keep the crew in rough-dried dungarees and clean bedding, while the lone duty laundryman operated the steam presser to handle officers’ khakis and wardroom linen.

The Galley Passageway, running athwart Maury’s 36-foot beam on the main deck just inside the forward structure where the raised forecastle began, was the crossroads of the ship. Watertight doors, facing aft at the port and starboard ends of the passage, gave access from the main deck, and the entire crew passed through the Galley Passageway at least six times a day.

The ship’s Galley formed the after side of the passageway, taking up the entire distance between the access doors, and extended aft a dozen feet to the stack uptakes. All food for the entire ship’s company was prepared in this one space. Coffee, soup, vegetables, and similar items were cooked in round, shiny metal coppers, about 30 inches in diameter and nearly as deep, which were firmly fixed to the deck and heated by steam jackets. Liquids could be removed through spigots at the bottom, but solids had to be lifted out into smaller, movable containers. Two frying grills and one large cook-top, with a system of fences and rails to keep pans from sliding around, were provided for smaller menu items, and a roasting oven with several separate levels could handle a dozen roasting pans at one time. The temperature in the Galley was usually high, and the cooks wore white hats and normally had dish towels around their necks to soak up perspiration. Vegetables were
usually prepared by messcooks outside on the main deck near the port door where the peeling machine and spud locker were located. Meat, eggs, milk, butter, and perishable vegetables were stored two decks below in walk-in freezer compartments, off the ice-machine room.

In the port section of the Galley the bakers had their work counter, large mixing machine, and a proofing oven. Since they had to use the same baking oven as the cooks, bread was normally baked at night and stowed in the bread locker at the starboard end of the Galley Passageway. The crew insisted on fresh bread for every meal, and pies, buns, cakes, biscuits, and cornbread were expected frequently.

Facing forward from the Galley into the passageway, the Officers' Pantry was to port, the Provision Issue Room, where a ready supply of dry provisions was stored, was across the passage, flanked by the Food Carrier Locker, and on each side an inclined ladder led below to the Crew's Mess.

There were four Crew's Mess compartments with tables and benches for a total of 161 men. The Chief Petty Officer's Mess was just forward of the Crew's Mess compartments and had seats for 14 CPOs at the table. A single central Scullery was in the forward mess compartment, where the stoneware plates, bowls, cups, saucers, and stainless tableware were stored in racks that just fit the dishwashing machine and stacked securely for stowage. Messcooks carried the food from the Galley to the mess compartments in round aluminum pots, about 10 inches in diameter and almost as deep, which could be stacked five high in special carrying racks. Occasionally for special dishes, the messcooks used square metal baking pans. Coffee and other beverages were carried in large tapered pots that could be easily swung in one hand when going down the ladders. The cry, "Gangway, Hot stuff!" was often heard around mealtimes.

The passage between the Provision Issue Room and the Bread Locker led to the Wardroom and "Officers' country." Compared to the turmoil of the Galley Passageway and mess compartments, it was like entering a private club. The long Officers' Mess table ran athwartships and had been extended to its full length, seating 14 officers, with the captain at the head to starboard and the mess treasurer at the foot. The leather transom along the ship's side to starboard was balanced by a serving buffet fixed to the port side, next to a serving scuttle to the pantry. Two portholes still remained on each side of the ship, because the Wardroom was on the main deck, above the watertight envelope sealed for battle. There were no pictures or other adornment left in the compartment, and the whole was dominated by a large chrome-plated medical operating-room light centered over the table, the wardroom being the Forward Battle Dressing Station.

Forward of the Wardroom were five double officers' staterooms and the Officers' Head and Shower. The Captain's and Commodore's Cabins were a deck above, as was the executive officer's single stateroom. The staterooms were furnished so that each officer had a metal joiner combination desk and chest of drawers, a double-door hanging locker, and a built-in bunk, upper or lower, with civilian-size mattress and spring set. Each stateroom had its own lavatory, portholes, and electric fan.

Beyond Officers' country, past the Ammunition Handling Room under the forward five-inch mount, lay Chief's Quarters. The chief's prestige was indicated by the relatively spacious quarters, double-thick mattresses, wide bunks with springs, and individual chairs at the mess table, but a chief occasionally paid for his privileges when the ship headed into heavy seas and the deck rose and fell 30 feet with each wave.

Maury was the newest of the forty-eight 1500-ton "Gold Platers" that, prewar, had made up the six squadrons of Destroyers, Battle Force, U.S. Pacific Fleet. When I reported aboard in March 1941, just after graduating from the Naval Academy, she was beautiful—painted light gray with sparkling accents and the lines and grace of a yacht—but her power and purpose showed clearly. Sixteen of the new Mk-15 torpedoes in four quadruple mounts flanked the main deck amidships—deadly "fish" that gave her a Main Battery capable of sinking any ship afloat. Her four rapid-fire, dual-purpose five-inch, 38-caliber five-inch/38 guns followed automatically the lighting calculations of the Mk-10 Rangekeeper in the director to hit surface or air targets out to 18,000 yards—nine nautical miles. She also had .50-caliber machine-guns for lighter work. She had actually carried four boats—the captain's gig, a 30-foot motor launch, and two 26-foot motor-boat whaleboats, and had the boat boom and a mahogany-trimmed accommodation ladder to go with them—long-lost luxuries in the austerity of wartime.

The pride of her builders at Bethlehem Steel—San Francisco in 1938 showed in her details—for example, raised metal walkways and taut lifelines were provided over the cambered weather decks for safety when seas washed aboard. They also gave her speed—her new 600-psi, high-superheat steam turbines drove her twin shafts with a total of well over 50,000 horsepower which yielded a top speed of 42.8 knots at light displacement during her builder's trials—a fleet record. She and her sisterships, USS Gridley (DD-380), USS Craven (DD-382), and USS McCall (DD-400), formed Destroyer Division Eleven, the low-numbered division of Destroyer Squadron Six. They were unique in appearance even among the "one-stackers"—
their lone funnels were a bit longer fore and aft, flat on the sides, and surfaced with 15-inch vertical aluminum "planks." Painted a light-gray "war" color, with graceful raking single masts, varnished black "watch caps" atop the stack, and meticulously tarred rigging, these ships were a joy to behold.

As *Maury* lay alongside the crippled cruiser, she was a different ship. In the fall of 1941, Capt. Lord Louis Mountbatten, Royal Navy, brought to our untried fleet at Pearl Harbor descriptions of devastating fires aboard British ships damaged in action. Within days the U.S. Pacific Fleet was ordered to "strip ship." Off came all the niceties of life—first the movables such as rugs, pictures, overstuffed furniture, lamps, private radios, wooden deck gratings from the bridge, showers, and heads. Then the linoleum was stripped from the decks; the metal sheathing, which had concealed the pipes and wiring in Wardroom country, was removed; all portholes below the main deck were blanked. Blackout curtains were provided at all topside access doors. The gig, motor launch, and one of the whaleboats were removed with their davits. The boat booms disappeared and the elegant accommodation ladder was replaced with an ugly steel vertical side ladder. The raised walkways and their fittings were chipped off (initiating an endless series of experiments to find a suitable skid-proof coating for the weather deck walkways). To add insult to injury, all decorative paint had to be chipped off throughout the ship, leaving either bare metal or the sickly yellow of zinc chromate, the only coating allowed. Finally, the exterior of the ship was painted dull black, a surprising choice because it only caused the ship's silhouette to be more easily seen against the horizon at night. The hideous fireproof paint soon turned chalky, soiling everything that brushed against it.

In peacetime, *Maury* had been manned by seven officers and 156 enlisted men. On 8 December 1941, when TF-8 entered Pearl to replenish, survivors from three damaged destroyers and a couple of battleships poured aboard. When she next returned to port two weeks later, a draft of recruits, who had volunteered the moment war was declared, showed up in the civilian clothes they had worn when they signed up, without even a day in Boot Camp. Officers' quarters had earlier begun to fill with Naval Reserve officers, 18 chiefs, and 229 lower ratings. The unused Commodore's Cabin had been converted into a Junior Officers' Bunkroom, an upper bunk had been installed in the chief engineer's stateroom, but the captain and the executive officer still had single staterooms and the captain retained his private head and shower. Room for three extra bunks had been found in

Chief's Quarters, bunks had been swung in the Sail Locker, Carpenter Shop, and Sickbay, and bunks for the messcooks had been swung outboard in the mess compartments where the ports had been blanked. Each man could still be provided with his own bunk and locker, and since a part of the crew would always be on watch at any time, the entire off-watch crew could be fed at one sitting. Despite these changes, the ship had become crowded.

After the ship secured from GQ, I went below to my stateroom—which I shared with my assistant, Lt. (jg) C. L. "Charlie" Leveritt, a class behind me at the Academy—took my morning shower, trimmed and combed my blossoming beard, put on a clean set of khakis, and stepped into the Wardroom for breakfast. Despite the cataclysmic battle just two days ago, the table was set as usual with white linen and silver. The two mess attendants, Wyatt and Robnett, wore white mess jackets as they served. Each officer's order was prepared in the pantry and passed through the scuttle when ready. Meanwhile, the mess attendants were serving coffee and juices from the buffet.

Captain Sims was at the head of the table to starboard, and Executive Officer Lt. Warren W. Armstrong was seated to his right. As third senior officer aboard, I took my seat to the captain's left. Our department heads, all lieutenants (junior grade), were still at the table, including Dr. Gene Abts, ship's Medical Officer.

I ordered my usual stack of pancakes with fried eggs on top and bacon on the side. The canned orange juice had tasted awful lately, so I ordered tomato juice. The canned milk from the silver creamer curdled when I poured it into the jet-black coffee—the coffee must have been left over from the same pot I'd asked Wyatt to make during the mid-watch. The mess boys would let a Silex simmer for days if you didn't get after them.

Comdr. Gelzer L. Sims, Naval Academy class of 1925, was a small, intense
man, with a shy smile and a numerical calculator in his head. He was por­
ing over the morning messages on the clipboard proffered by the Radio Messenger, RT3/c Nikolai Severski. All incoming dispatches, radio or visual,were sent to Radio Central, decoded as necessary, then typed and routed to "Action" and "Info" officers, and delivered by messenger. The captain, of
course, saw all traffic.

Sims stopped at the end of a "visual" from the task force commander,
took off his glasses and announced, "This is going to be a busy day. The
admiral wants all action reports in his hands by the end of the day. He's
going to fly down to Espiritu as soon as a plane is available and put together
his report down there. Warren, I want you to have your report and those of
the heads of department on my desk by noon."

"Aye, aye, sir," Armstrong replied. "That'll be easy for me, because I didn't
see much from Secondary Conn except smoke, starshells, and explosions,
but Crenshaw and Hughson might have seen more of what was going on."

"It'll be easy for me, too, Captain," I added. "Twenty-five salvos with the
radar shorting out on the first shot. Lots of starshells and smoke, a peek at
a small ship, probably a merchantman, outgoing torpedo wakes, a few incom­
ing shell splashes a couple of thousand yards short, and four big explosions.

One hundred rounds of five-inch expended with no casualties except for the
radar, which Seymour fixed yesterday."

Torpedo Officer Chuck Cheyney shrugged and said, “You were right
beside me during our torpedo approach, Captain. I never saw a thing before
we opened fire—after that, I was so blinded by our own gun flashes I
couldn’t have seen the Normandie. There’s no doubt in my mind, however,
that I later saw an enemy cruiser get hit repeatedly and blow up. There
were fires over to the left and there was sure a lot of shooting. The cruisers
must know what happened.”

Hi Hughson, Communications Officer and the GQ Officer of the Deck,
chimed in, "I was in and out of the Pilothouse during the firing trying to
keep station on Perkins between gun blasts, but I’m sure I saw torpedo wakes
crossing ahead just before Fletcher turned right and kicked up to 30 knots."

“How about you, Jim, anything special to report from the black gang?”
asked the captain.

Jim Winn, our big, blond Chief Engineer, smiled, “Not really, Captain.
You can’t see much from the main deck beside the Midship Repair Locker,
but Ens. Billy Booze was below in the forward engine room and he assures
me our snipes answered all bells with a jingle, even when Hi rang up turns
for 36 knots—we haven’t done that in a long time and these tropical waters
are pretty warm.”

“Okay, gentlemen. Today is paperwork day if the Japs don’t keep us busy
and if you can work it in among your more important duties. Warren, come
up to my cabin and let’s see how we want to put this report together.”

After I had written my short report to the captain and turned it over to
Armstrong, I went out on deck to check the work in progress. The gun­
ners’ mates were still cleaning the mounts after the firing, the firecontrol­
men were running tests on the Mk-10 Rangekeeper and rechecking the
battery alignment, and the torpedomen were checking out the selector
switches on the bridge.

I was looking over the mooring lines amidships, where Chief Boatswain’s
Mate W. G. "Bill" Sharp ton had worked out a novel arrangement to hold
the ship in place despite the lack of the usual deck fittings on the cruiser’s
forecastle, when a voice boomed out above my head, “Hey, Rusty, an ALNAV
just came in and we’ve made lieutenant!” I looked up and there hanging
over the cruiser’s lifeline was my Naval Academy classmate, Pierre Char­
bonnet, whom I had not seen since graduation, waving a sheet of paper
with a huge grin on his face.
A promotion was the last thing on my mind. "You must be kidding, Pierre, we've only been 'j.g.s' since June."

Charbonnet handed down the copy of the dispatch. Sure enough, there was my name, in its order of precedence among '41 graduates, promoted to the temporary rank of Lieutenant, U.S. Navy, to rank from 1 December 1942. It was totally unexpected and irrelevant to the current situation, but nevertheless I felt a warm surge of satisfaction. "I guess you're right, Pierre, I never expected it to be so soon."

"And more than that, we'll be getting $186 a month and that's not to be sneezed at," Pierre added with relish.

I went aft to where a ladder had been rigged to the cruiser's deck and climbed aboard to congratulate my friend. "Pierre, you look in fine shape, the explosion seems to have missed you."

"Yeah, I was lucky. Got soaked by oil and water, but otherwise came out okay. You look plenty healthy, too, but I could hardly recognize you in that get-up. You look like an African explorer with that full beard and tropical helmet."

"We were a bit busy for three days during the Battle of Santa Cruz, and when I finally had a moment to shave, I dropped my Rolls razor and bent the blade. So I've just let her grow until I can get a new blade. But where were you when the torpedo hit?"

"I was Spot Two, in the Main Battery Director atop the after superstructure. We got a hell of a jolt, but nobody in my crew was hurt, though we got plenty wet. The water thrown up by the explosion actually came pouring into the director hatches, almost a hundred feet above the water!"

"You must have had a grandstand seat for the action. What could you see?"

"At the beginning, not much. I couldn't see our target, and our first two salvos were fired without any illumination. I followed the tracers out with my binoculars and saw the shells actually hit—they make a red glow where they go through a ship. She quickly caught fire and in the light of the fires she appeared to be a large destroyer. After the second salvo hit, our target became surrounded by burning oil. The fires died out quickly so I believe she sank very fast. I could clearly see that this ship had two mounts forward and two mounts aft."

"As soon as the starshells became effective, we sighted another large destroyer or light cruiser. She also had two mounts forward and two aft and a heavy bridge structure. She appeared to have more than two stacks and a tripod mast. We gave her four salvos and saw her blow up and disappear in a cloud of smoke. The captain decided she must have been an Atago-class light cruiser."

"By this time the light from the starshells was getting really good and we saw a large ship with two stacks to the left that wasn't firing. She had the hull lines of a warship, but she probably was a cargo ship. We hit her with our first salvo, and she blew up with a tremendous blast after the second salvo. We then shifted to another cargo ship, even farther to the left and she blew up when the second salvo hit. We were looking for some more targets when Minneapolis was hit and in less than a minute, we got ours!"

"Did you lose a lot of men?"

"Most of the first and second divisions! The whole crew of Turret I went down with the turret, and nobody in Turret II survived the explosion. We lost 178 men killed or missing and shipped off 23 more to the hospital. I guess you know that our classmate Ed Johnson was turret officer of Turret I."

This last thought erased any elation I felt about our promotion, so I tried to shift the conversation to lighter subjects. Pierre showed me around the damaged part of the ship where feverish work was in progress to strengthen her structure. It was amazing how little damage had been done aft of Turret II. The bow had been cut off cleanly between the two forward turrets, and luckily no serious fire resulted abaft the turrets. The problem was to shore up the remaining bulkheads so they could stand the pressure of the sea.

In the afternoon Captain Sims gathered the reports of all officers and wrote his short, two-page report. In it he observed that it had been a battle for ships equipped with the new "Sail George" (SG) type radar, the one designed especially for use against surface targets, which Maury had not yet received. He had held back firing his torpedoes because he had no target. The type FD fire-control radar in the director had been unable to find anything until the last minute, and then it shorted out on the first salvo. As for good news, he reported seeing fires on two enemy ships and observing one of them blow up with a brilliant flash that lasted an appreciable length of time. He also reported observing enemy shell splashes on both sides of Maury during the early stages of the action, but none of them were close.

Insofar as recommendations were concerned, he suggested that in future actions a rendezvous should be designated some distance from the scene of action at which destroyers with remaining torpedoes could assemble and concentrate for a later attack.

Although Maury had come through this fifth major night action near Savo Island unscathed, it was clear to all of us that the situation in the South Pacific was getting pretty grim. Our carriers were all sunk or damaged.
The old battleships had been wiped out at Pearl and only a couple of the new ones had arrived in the forward area. The three wrecks in the harbor were the last of the heavy cruisers and there were not a half-dozen light cruisers left either. Destroyer losses had also been heavy and only a couple of the vaunted new-construction ships had showed up. All this was brought into focus when we realized that, at the moment, *Maury* was the only operational major combatant ship in the Solomons area. It gave us a pretty lonesome feeling.

Adm. William F. Halsey Jr., Commander South Pacific Forces (ComSoPac), had even more reason to be concerned than we in *Maury*. The situation with aircraft carriers was desperate. Carriers *Lexington* (CV-2), *Yorktown* (CV-5), *Hornet*, and *Wasp* (CV-7) had been sent to the bottom in 1942. *Saratoga* (CV-3) had been torpedoed again and was being repaired in Pearl Harbor. Despite amazing efforts by the Service Force repair ships in Noumea, *Enterprise* was still suffering from the bomb damage received at Stewart Island and Santa Cruz. Her Forward Aircraft Elevator had been given emergency repairs, but it had not been tested and her commander, Capt. O. B. Hardison, wasn’t going to risk getting it stuck in the “down” position, thus leaving a gaping hole in his flight deck. As a consequence, planes couldn’t be struck below to the hangar deck until all planes had landed. This slowed down flight operations and limited the number of planes that could be handled. Her watertight integrity was nonexistent in the areas near her bow where the deep-penetrating bombs at Santa Cruz had reached. In addition, after a year of continuous operations, she was badly in need of overhaul and there wasn’t a drydock in the area that could handle her.

Henderson Field on Guadalcanal was turning out to be the best U.S. aircraft carrier left. It might be getting plastered by Japanese bombers almost
erful, but less efficient high-pressure turbines, to give the ships increased range at moderate speeds.

Nine ships of the Sims class formed Destroyer Squadron Two at the beginning of the war, but by the spring of 1943, Sims, USS Hammann (DD-412), O'Brien, and Walke had been lost, leaving only five of the original 1570-tonners, so 1500-ton USS Ellet (DD-398), having lost her only sister USS Benham, was added to make a six-ship squadron.

The first of the 1630-tonners in the Pacific, which arrived in the spring of 1942, were Gwin, Meredith, Grayson, and Monsen of DesDiv 22. Commodore Tobin brought the first 1650-tonners of DesRon 12 to the war zone in time for the battles of Savo Island. The loss of Duncan, Laffey, Barton, and Aaron Ward brought a new need for reorganization, so by the end March 1943 Capt. T. J. Ryan, ComDesRon 12, commanded both the squadron and Division 24, made up of USS Lansdowne (DD-486), Grayson, Lardner, and USS McCalla (DD-488), while Comdr. John M. Higgins commanded Division 23, with Gwin, Woodworth, Buchanan, and Farenholt.

The 2100-ton "Fletchers," first commissioned in 1942, were completely different from their predecessors. They had longer, heavier, and stronger hulls, five centerline shielded 5"/38s, two centerline quintuple torpedo mounts, a twin 40mm mount atop the after superstructure instead of a 36-inch searchlight, and plenty of 20mm mounts. They were "flush-deckers," like the old four-pipers, with the weather deck running unbroken from bow to stern, and two fat raking stacks blended into a low superstructure, giving them a long, sleek look. Their FD gunnery radar, mounted atop the Mk-37 director, gave the impression of a hand reaching skyward for a target. Most important, they were equipped with SG surface-search radars from the start.

USS Fletcher, built by Federal Shipbuilding in Kearny, New Jersey, and USS Nicholas and USS O'Bannon, built by Bath Iron Works, Bath, Maine, were the first to arrive in the forward area. Both Fletcher and O'Bannon participated in the third Battle of Savo Island, Fletcher led the way at Tassafaronga, and De Haven completed the four-ship division just in time to get sunk off Savo Island. Radford, Jenkins, La Vallette, Chevalier, Strong, and Taylor arrived in early 1943 to fill out a full two-division squadron. By March 1943, Destroyer Squadron Twenty-one made its appearance in the Pacific Fleet Organization books, with Comdr. F. X. McInerney listed as both ComDesRon 21 and ComDesDiv 41, in Nicholas as flagship, and Comdr. R. M. Morris as ComDesDiv 42 in Fletcher.

On 5 March 1943, before the new squadron could be assembled as an operational unit, Commodore Briscoe, still officially ComDesRon 5, led his Cactus Striking Force of Fletcher, O'Bannon, Radford, and Nicholas on another midnight bombardment of Munda airfield, pounding it from the south with 1600 rounds of five-inch, without receiving any damage to his ships, but the futility of such treatment was evident when Japanese planes were sighted using the airstrip the very next day.

That same night, in Kula Gulf, Rear Adm. Tip Merrill, with his division of new light cruisers, Montpelier, Cleveland, and USS Denver (CL-58), screened by the new 2100-tonners Waller, Conway, and USS Cony (DD-508), under
out of Faisi and heading down the Slot, so the Henderson planes rose again to meet them. This time 33 American SBDs and TBFs, escorted by 31 fighters, met large numbers of defending Zeros and lost 10 planes to the Japanese loss of 17. Three of the Express's destroyers were damaged but not stopped. Briscoe's destroyers, with one lost and one damaged out of a total of four, had returned to Espiritu Santo for rest and repairs, and Calvert's PTs were unable to find the Japanese along the Guadalcanal coast or in Ironbottom Sound. In the morning, about 30 abandoned landing barges were found adrift west of Cape Esperance.

A retaliatory air strike launched from Henderson Field on 5 February found nothing, but a long-range search reported a force of 4 battleships, 6 cruisers, and 12 destroyers about 200 miles north of Choiseul. Were the Japanese about to launch another assault?

TF-16, -64, and -67 were on their ready stations about the same distance south of Guadalcanal, so the whole South Pacific Force was ready to attack should the Japanese make a move. Tension ran high, as all commands braced for a major engagement.

Eighteen more destroyers were spotted heading south on 7 February, and 15 dive-bombers from Henderson managed to catch them between rain squalls, hitting two, but not stopping them. Other enemy forces were not sighted.

General Patch's western force, coming up from Verahue, was now about three miles from Cape Esperance, while the eastern arm of his pincer had passed through Tassafaronga and was moving steadily. On the morning of 8 February 1943, the western force arrived at Cape Esperance and found only empty boats and abandoned equipment. On the afternoon of 9 February, the two prongs of the pincer met at a village on the Tenamba River a few miles east of Cape Esperance. They had found no enemy between them!

The Imperial Japanese Seventeenth Army had evaporated into thin air. The Japanese destroyers battling the American PTs in the periodic clashes at the entrance to Ironbottom were bait to draw the PTs toward Savo while their sisterships were picking up the remnants of Hyakutake's troops from the beaches to the west and south of Cape Esperance. The Tokyo Express and the shuttling barges had been evacuating the Japanese, not bringing in fresh supplies.

General Patch, however, could radio Halsey with exuberance: "TOTAL AND COMPLETE DEFEAT OF JAPANESE FORCES ON GUADALCANAL EFFECTED 1625 TODAY. AM HAPPY TO REPORT THIS KIND OF COMPLIANCE WITH YOUR ORDERS. TOKYO EXPRESS NO LONGER HAS TERMINUS ON GUADALCANAL."

GUNNER'S MATE 1/c JOHN LANZA was an unusual man. Solidly built and in his late thirties, he carried himself with dignity and assurance. He was a Gypsy and proud of it. His curly ringlets were a bit longer than "military" and showed a touch of gray at the temple. His dungarees were not only clean, they were carefully pressed. Not one item of his attire was strictly regulation: his white hat, bleached and starched, was flared artistically; his blue cambric shirt, with his initials embroidered on the breast pocket, had neatly hemmed short sleeves and was squared at the bottom for wearing outside the belt; his dungaree trousers were tailored and belled at the bottom. He wore a penny in his right ear and a huge ring of entwined golden serpents on his left ring-finger.

A most striking feature of Lanza's appearance was that, from his neck down, every suitable surface of his body was covered with beautifully executed tattoos, which he would readily show to anyone interested. The heads of four black horses covered his chest and showed in the vee of his open shirt. A python encircled one arm and a leopard clung to the other. A full-rigged ship adorned his back, and he had spectacular Petty girls on his thighs and calves. Before the war, he and a Chinese friend had opened a tattoo parlor in Honolulu, which not only gave him an outlet for his art, it permitted him to own a 40-foot sailing yacht.
But if one thought Lanza's bizarre appearance defined the man, he would be wrong. Besides being a skillful and experienced gunner's mate, Lanza was a quiet leader of men. Wherever he was, things got better. When he took over as gun captain of Mount 54, the hardest to keep bright and clean because of the constant traffic on the fantail and the frequent doses of salt spray, it was soon competing with the forward guns, captained by Gunner's Mates William Karsten and Charles Kelly. When he first moved into the deck force compartment, it had a reputation for slovenliness—two weeks after Lanza arrived, the Exec noted a distinct improvement in the space. Men who bunked near Lanza kept their bedding unusually clean and bathed often.

But the fastest firing gun in the ship was Mount 53 on the after superstructure deck. It was an open mount like Lanza's, but didn't get as much spray. What made it different, however, was its gun captain, a tall, taciturn North Carolinian with a pleasant smile, who loved his gun as much as Lanza loved his, but was more skillful in his planning and training. Sumner Midgett was just 21 years old, but he was a serious career Navy man. He was already a Gunner's Mate 2/c and working on promotion. The best way to get ahead was to produce the best gun and crew, so that's what he did. He started by singling out the best candidates on the ship, then worked to get them assigned to his gun.

Charles Barrow, the powerful black Officers' Steward 3/c, who had been in the Navy many years before the war and had moved up and down the promotion ladder several times, had asked to be assigned to Midgett's gun and had worked his way up to becoming First Shellman. Though not as large or powerful as some of the other members of the crew, he could handle the 54-pound projectiles with unerring precision. His station was just to the left of the gun's breech, where he braced himself as the whole mount jerked from side to side, following the changing gun train order from the director. His task was to lift the heavy projectile from the fuze setter and, in the proper sequence, place it in the gun's loading tray while the whole rear section of the gun pivoted up and down in front of him, in response to the electric elevation signals.

On the gun captain's order "Load," the First Powderman, just to Barrow's right, would drop his 30-inch-long, brass-encased powder cartridge into the tray ahead of the rammer spade. Simultaneously, Barrow would pivot the projectile out of the fuse setter behind him, cradle it across the side of the breech housing, and roll it into the tray in front of the powder cartridge. As soon as the two parts of the semifixed round were properly in place, the Rammerman would push his lever and the whole load would be swept forward into the open breech by the hydraulic rammer, tripping the massive breech block to snap up to close the breech with a "clang!" When the round was fired, the entire gun assembly within the housing would jump backward almost two feet, camming the breech block open as it moved, and ejecting the empty brass cartridge case to the rear.

During rapid continuous fire, Barrow and his mates would repeat their sequence at a four-second rhythm as long as the firing keys were held down. It took a strong man with great endurance to be a good first shellman. Barrow was such a man and commanded the respect due his position. With Barrow leading the way, Midgett honed the skills and timing of his crew until it regularly achieved a loading rate of 22 rounds per minute during daily practice on the loading machine.

But Barrow and his fellows on the actual gun mount were useless without ammunition. The ammunition train started at the keel of the ship where the projectiles, noses protected by metal fuse caps, were stacked in racks in the lower handling room beside the "dredger" hoist. The 28-pound powder cartridges, in specially designed aluminum cans, were stacked in adjacent powder magazines. At GQ, six men would man each of the lower handling rooms, one under each of the 5"/38s, and start the ammunition on its way. Many volunteered for the duty because the ammunition spaces were lighted, quiet, and away from gun blast and weather.

In the upper handling rooms, immediately under the two forward enclosed mounts, the dredger hoists delivered both powder and shell to another crew, where shell handlers removed the fuse caps and placed the projectiles nose-down in the fuse-setting hoist (an integral part of the rotating gun mount), while "powder handlers" removed the powder cartridges from their cans and placed them in ready racks beside the shell hoist. The upper handling rooms also had racks for about 50 rounds of both powder and projectile in ready service stowages, for use during condition watches, when the lower handling rooms weren't manned.

On the open mounts aft, there was no upper handling room per se; the dredger hoists delivered their loads to gun crew shelters, in the end of the deck house, just forward of Mount 54, and in a similar location on the superstructure deck, just forward of Mount 53. For these mounts, ammunition passers had to carry the ammunition from a light-locked passing-scuttle in the bulkhead of the shelter across the open deck to the mount. There, the shell passer would hand his shell to the fuse-setter operator, who would pivot the projectile nose-down into one of the three fuse-setters on the side
of the gun mount and crank the handle to initialize the setting of the fuse. Powder passers followed the same path as the shell passers, depositing their cartridges in a rack beside the fuse-setters. Carrying ammunition across a spray-drenched deck in the black of the night, with gun blast pounding your body and blinding your eyes, while the ship heeled to the seas and shook at the rhythm of her propellers, required agility, determination, and luck.

Every morning, after assembling at Quarters for daily muster and instructions, the loading crews would make their way to the loading machine, located amidships atop the machine shop, to practice their art. The loading machine was a replica of the breech and loading mechanisms of a 5"/38, but as each combination of dummy powder and shell was rammed home, the projectile would fall into a catcher under the fake barrel and the dummy powder cartridge would be ejected to the rear just as an empty case would be during firing. Loading drill was good exercise and absolutely essential for dependable operation of the guns, so loading drill was a part of our daily routine whether at sea or in port.

_Maury's_ six single 20mm heavy machine-guns, mounted in pairs of gun tubs, port and starboard, just forward of the Bridge, abaft the stack, and atop the after superstructure, presented different training problems. Each of the eight-foot-long guns was mounted on a chest-high pedestal and could pivot 360 degrees and elevate almost to the zenith. A small armored splinter shield pivoted with the gun and gave some protection to the crew. The gunner was strapped to the rear of the gun with his shoulders cradled in padded crutches, which permitted him to move the gun with his body while his hands gripped a control handle with a trigger bar. He sighted through a ring-sight mounted above the barrel for taking his initial lead angle, but used tracer control to sweep his stream of tracers into the target by eye. Each round of ammunition weighed almost a pound, so a loaded magazine of 60 rounds, which had to be locked into the breech housing, was all a man could handle. Each crew consisted of a gunner, a loader, and two ammunition passers.

In addition to tracking a target and pulling the trigger, there was much more to operating a 20mm. First, the gun had to be cocked, which required pulling the entire recoiling mass of the gun to the rear against the heavy recoil spring until it could be held by the trigger latches. A special cable and pulley arrangement was provided at each gun so that two or more men, using the gun's barrel as a lever, could compress the spring to the cocked position. Because barrels become very hot when fired, spare barrels were provided, and the crew had to be trained to change barrels in a lull. Time lost removing an empty magazine and replacing it with a fresh one was critical, so loaders had to practice until they could shift magazines in split seconds. All this took training and frequent practice.

Luckily, as the new year of 1943 opened, there was plenty of opportunity for training. _Maury_, the first days of January were spent patrolling with TF-64. On the tenth, when we returned to Noumea to replenish, we were surprised to find USS _Shaw_ (DD-373) hard aground on the barrier reef just to the south of Bulari Passage, the entrance at Amadee Light. She had become confused in an early morning fog and tried to go through the wrong hole. It reminded us of the day after the attack when TF-8 entered Pearl Harbor and we saw the same unlucky ship, wrecked and burned, tilting precariously in the floating drydock at the Navy Yard.

After two days in port, _Maury_ was detached from TF-64 and given temporary duty with _Perkins_ to escort transport USS _McCawley_ (AP-10) and cargo ship USS _Jupiter_ (AK-43) to Guadalcanal. We arrived at Koli Point just after daylight on 16 January and patrolled to seaward while the big ships began unloading. Just before 0900, enemy shells began exploding along the beach where the boats were being unloaded, and blossoms of smoke from return fire by our own artillery could be seen among the trees on the hills in the distance. The beach was ordered cleared until the shelling could be stopped.

At 1030, Cactus Control broadcast "Condition Red," so _McCawley_ and _Jupiter_ got underway, with _Maury_ and _Perkins_ circling for protection. No enemy planes appeared and at 1109 Condition Green was announced, so _McCawley_ returned to her anchorage. After a few minutes, we were called alongside the big ship to receive a consignment of troops bound for Tulagi, but we had hardly made fast when Condition Red was declared again and all ships were ordered to get underway. This type of interruption continued all day, so about 1730 _McCawley_ got underway, with _Maury_ escorting, and carried the troops to Tulagi herself, where we both anchored for the night.

Next day, we returned to Lunga Roads, where _McCawley_ resumed her unloading and we were ordered to patrol the Japanese-held portion of the coast from Point Cruz to Cape Esperance looking for targets of opportunity. Cruising about a mile off shore, we saw no Japanese, but picked up a sealed black rubber package about four feet long and 18 inches in diameter. After careful examination to detect possible booby traps, we opened it and found it contained 360 sticks of a yellow substance, each about six inches long and an inch in diameter. The crew was sure it was some kind of explo-
sive, perhaps cast TNT, but several months later, when we finally found someone who could read Japanese, the inscriptions turned out to say "Pray for Victory," "Field Ordnance Stores," and "Tasteless Yellow Sulfur."

On return to Noumea on 20 January, Maury was transferred to TF-11 under Rear Adm. D. C. Ramsey in the newly returned Saratoga. AA light cruiser USS San Juan (CLAA-54) and destroyers USS Saufley (DD-465), Maury, USS Case (DD-370), and McCall made up the escorts. Our own squadron commander, Comdr. Walfrid Nyquist, ComDesRon 6, was riding in Saufley, so perhaps after being dispersed for almost a year the old squadron might be reassembled.

For the next two weeks, TF-11 patrolled south of the Solomons, often in sight of TF-64 or TF-16, standing by for whatever might come down from Truk, meanwhile conducting training and gunnery practices almost daily. The force normally cruised in a formation with the carrier in the center as guide, San Juan dead ahead of her at 3500 yards, and two destroyers echeloned back on each side from the light cruiser to form an antisubmarine screen, with 2000 yards between adjacent ships in the screen. When an anti-air formation was ordered, the five escorts would take stations evenly spaced around a circle 3000 yards from the carrier.

When the signal flag "Fox" was hoisted partway up to the tips of the carrier's yardarms, signaling that flight operations were about to begin, without further signal the destroyer designated as the Plane Guard left its station in the screen and maneuvered to a station at 1000 yards astern of the carrier, riding just outside the big ship's wake to starboard. The plane guard established a turning mark for incoming planes, and its lifeboat and crew stood ready should a plane land in the water. When the Fox flags were hoisted all the way up to the yardarm, or "two-blocked," flight operations commenced. When the Fox flags were hauled down, the plane guard destroyer would dash back to its place in the screen. Each of the destroyers got its full share of plane guard duty.

Each time the formation course or axis was changed, all ships in the screen had to reorient to new stations, often having to shift through large arcs using maximum speed. For each change in formation, the JOOD would plot the range and bearing from the guide to his old position and his new position on a maneuvering board, establishing the line of relative motion desired, then determine the required course at the permitted maneuvering speed, usually 25 knots, to move his ship along the desired relative motion line. It took a good basic understanding of relative motion to solve the maneuvering triangles, and it was essential to becoming a qualified OOD "In Formation."

All this maneuvering required a lot of measurement. Bearings were taken with a bearing circle or a telescopic alidade, sighting across the gyro compass repeaters in the peloruses on each wing of the bridge. Ranges were measured with a hand-held stadimeter, though OODs had to be proficient at estimating the distance to a known ship by judging the height of its mast in comparison to the vertical field of his binoculars. This was essential at night when a stadimeter couldn't be used because all ships were "darkened" and only the black silhouette of a ship could be discerned.

The seas were rougher than usual in the Coral Sea, and as the ships maneuvered to maintain their frequently changing formations and steamed at speeds necessary to produce the required 30 knots of wind-across-the-deck for air operations, decks became lively. Maury would frequently dig her bow into a large wave or the curling wake of the big carrier and produce an explosion of white spume, drenching her forecastle and occasionally reaching over her gun director. In a high-speed turn, she would heel outboard 10 degrees or more in calm water, but in choppy seas, if she fell into a trough during the turn, she might heel more than 30 degrees. With a fresh breeze and 10- to 15-foot waves, it could be a rough ride, with the bow rising high enough to show her keel before plunging into the next wave, and she would usually be rolling steadily at 15 degrees or more to the side.

When it got very rough, we had to hang on to the ship structure to keep from being catapulted across the deck. By day, this meant holding on with one hand while working with the other, or wedging between fixed parts of the ship to work with both hands. At night, crewmen used their belts or bunk straps and officers learned to sleep in the space between the side of the mattress and the bunk box.

The most spectacular results of rough weather came at mealtimes. The tables in the Crew's Mess were built with raised rims on all four sides which could usually be depended upon to stop plates or utensils sliding across the table. The long athwartship wardroom table had been equipped with a "fiddle board"—a clever arrangement of removable partitions, designed to provide compartments for each officer's plate, cup and saucer, water glass, and table silver—but that had disappeared when the ship was stripped. It wasn't missed, because most officers preferred the old four-piper trick of spilling a little water on the tablecloth, which held the cloth to the table and the plate to the cloth.
Despite the most careful preparations in the messes and warnings from the Bridge when rolling was anticipated, a relaxed moment or a rogue wave would occasionally heave the ship on her beam's end without warning. Crockery would crash, glassware would shatter, and all chairs at the wardroom table would slide together to the low side, their occupants clutching at anything to stop the motion, usually succeeding only in dragging the tablecloth and dishes with them as they careened into a jumbled mess against the lee bulkhead. Regardless of how rough it might become, Captain Sims, as a point of honor, refused to take any but his proper place at the starboard end of the table. On a couple of occasions, he lost his grip during a heavy roll and was the first to crash into the transom.

President Roosevelt had promised turkey dinners for the troops in the front line for both Thanksgiving and Christmas, but Maury's crew hadn't seen any. Not that they were suffering—all messes got plenty of "boneless beef" (select cuts already prepared for cooking and packed in convenient cartons), chicken, and pork products—and the ship's company hadn't really thought about the president's flamboyant promise. Then, we went alongside a supply ship to replenish "on station" in late January and learned about Ens. Henry S. Kahn, our Chicago banker and feisty Supply Officer, with our thoroughly seasoned Chief Commissary Steward Charles W. Richards, had prepared a normal requisition for so many cartons of beef, so many cartons of chicken, so many hams, so much bacon, and so on. It all came back in turkeys. Maury didn't receive any red meat, but we took aboard tons of big breasted roasters.

All hands enjoyed the first meals of "Roast Tom Turkey," as the menu on the bulletin board called it, but "Turkey Croquettes" for breakfast never became popular. Turkey cutlets, fried turkey, boiled turkey, turkey ragout, and turkey soup were served in succession and then repeated. As if to add to the misery, the cooks had forgotten to order salt, so the crew was soon scraping salt off the stack, where the hot sun and frequent showers of spray had built up a thick white crust. It was not recommended by Doc Abts because of the bits of paint that accompanied the salt, but it brought out a little flavor in the dry white meat. By the time Maury got back to Noumea, "Tom Turkey" had lost his charm.

The cruising and training routine was frequently broken by submarine scares, which usually turned out to be false alarms. A little after noon on 3 February, however, a real alarm was sounded when a snooping Betty was shot down by the Combat Air Patrol and TF-64 was called in to augment the AA protection of the "Sara." A tight AA formation was ordered and the formation course changed frequently, but nothing further developed.

On the evening of 5 February, we were detached for a trip into Espiritu Santo to pick up 60 droppable fuel tanks—the first we had even heard of—for the Sara air group. These tanks could increase the range of an F4F or SBD dramatically and might make a critical difference in getting our planes to where they were needed. We picked them up from the seaplane tender USS Chandeleur (AV-10), Admiral Fitch's flagship, early the next morning and delivered them to the big carrier before sunset that evening, along with several passengers for the ship and its squadrons.

It was on the trip into Espiritu Santo that we learned the details about the sinking of Chicago. We knew she had been lost, but we thought it was just an isolated incident. The harbor was buzzing about the way the task force had been handled. And there was plenty said about the speed of the Bettys and the effectiveness of their torpedoes.

To permit ready communications between the adjacent task forces without breaking radio silence, it became the custom to station a destroyer on the horizon between task forces as a link ship for visual communications. Maury spent days on this duty, so Burns and his signal gang got a good
of the propaganda cartoons, but a very formidable adversary, skilled in the art of war and equipped with excellent weapons. Japanese guns had proved deadly in the first battles around Savo, and their torpedoes were even more effective—the majority of American ships going down were sunk by torpedoes.

We were deeply mystified by the heavy losses of destroyers in the Savo battles and calculated that the chance for a particular destroyer to survive a series of battles was pretty low. Though an individual’s chance of surviving was better than that of his ship, the outlook for a long life while engaging in night battles was not promising. Most of us avoided talking about our feelings for fear of revealing personal weakness, but the dread of extinction was always there, deep in our minds. The best solution was to be a fatalist and accept whatever would come. Each of us, in his own way, resolved to play his part in the great drama unfolding around us and hoped good luck would carry him through.

Following her five days alongside Dixie, Maury got underway to take her turn at offshore patrol, relieving USS Balch (DD-363) as guardian of the break in the reef at Amadee Light. It was peaceful to be steaming back and forth tracing a long protective arc to seaward of the vital entrance, and it gave the crew time to clean up the mess of the overhaul.

The engineers had accomplished a lot in the few days their plant had been shut down. Though they were often taken for granted, everything in the ship depended on the snipes keeping the electricity going, the water flowing, and the ship moving. Twenty-four hours a day, in port or at sea, they had to be on their stations firing the boilers, running the generators, and pumping the vital fluids upon which a ship’s life depends. Usually unseen, deep in the “hot-air holes” that punctuated the deck amidships, they were a special breed.

The two firerooms were the world of the watertenders. To enter a fireroom, one tripped the spring-loaded air-lock hatch on the main deck, stepped over the high coaming, and, closing the hatch behind him, climbed down a 20-foot ladder in a shoulder-wide vertical trunk to the bottom of the ship, passed through an interlocked door, and arrived on the gratings of the lower level of the fireroom. Powerful forced draft blowers sucked air through four-foot-diameter air scoops on the main deck and packed it into the huge space where the boilers rested. Pressure in the fireroom was kept well above that outside the ship.

Two massive Bethlehem-Yarrow boilers were installed in each of the two firerooms, which gave Maury and her three sisterships more power than other classes of 1500-tonners. They were “side-fired” boilers, with their burners facing to the side of the ship, where deck space had been provided for the operators. Two rows of four burners each pierced the face of the boiler, and air from the pressurized fireroom rushed through slots in the air register that surrounded each cylindrical burner to mix with hot, atomized black oil being sprayed from the burner’s nozzle into the inferno inside the brick-lined firebox. Though provided with electric lights in explosion-proof fixtures in strategic locations, the space glowed from the fierce firelight shining through the burner registers. Sealed at 600 psi, super-purified feed water flashed into steam in the large-diameter generator tubes, took on more energy in the smaller superheater tubes, then flowed aft through heavily insulated six-inch pipes to the throttles in the enginerooms. The weight of water being converted into high-energy steam could be measured in tons per minute.

The firing rate was controlled by the “burner-tender,” who changed the number of burners in use, adjusted their air registers, and fine-tuned the resulting steam pressure with a valve on his master burner.

The “blower-man” handled the forced draft blowers, maintaining the pressure in the fireroom as the demand for air changed, and watching the clarity of the exhaust gases through a special periscope looking up the stack. A puff of smoke would bring an instant rebuke from the Bridge.

The “check-man” handled the valves to control the flow of feed water to both boilers. He was stationed on the upper level, 10 feet above the men in front of the boilers, where he sat on a stool before lighted sight-glasses in the front of the steam drums, which permitted direct observation of the water level. The water level in the steam drum at the top of the boiler had to be maintained within close tolerances because, as the ship maneuvered, the boiler devoured water at a rapidly changing rate. If the water level dropped low enough to expose an empty tube to the heat of the raging fire, the tube would fail in seconds. Conversely, should water instead of steam be delivered to the turbines, the turbine blades would be wrecked.

The “top-of-the-watch” was the man in charge of the fireroom, and he relieved the blower man when needed. There were also a few extra men to take their turns at the checks and burners, bringing a normal watch crew in a fireroom to seven.

The fireroom crew also had many secondary duties to keep them busy, such as tending the fuel pumps and heaters, cleaning burner tips, and “blowing tubes” (cleaning the soot from around the boiler tubes with steam), but
if they kept the steam flowing and made no smoke, they could live in their isolated world in 90°F comfort in front of their roaring burners, smoking, and drinking their special coffee made on the spot with a blast of live steam. No one came to a fireroom by chance.

The enginerooms, the realm of the machinist's mates, were different. They were open to the atmosphere and could be entered through larger hatches inside the deckhouses. At the foot of the ladder to the forward engineroom, which powered the starboard shaft, the "throttleman" faced an array of instruments on the main gauge board, but concentrated on the large shaft rpm dial in the center. Engine direction and desired rpm were ordered from the Bridge by the engine order telegraph and the revolution order indicator, which rang a loud bell each time they were changed. The throttleman would ring back to indicate he had received the order, then spin his throttle wheel in response. Each change was recorded in the engineroom bell book, a record as official as the quartermaster's notebook on the bridge. A companion throttleman was stationed in the after engineroom, which powered the port shaft.

In each engineroom, a high-pressure and a low-pressure turbine, shrouded in heavy white insulation that exaggerated their true size, were mounted side by side and linked with large crossover piping. The turbine drive shafts were connected to the huge reduction gears, which in turn drove the 15-inch-diameter propeller shafts. Each combination, slanted slightly downward to be in line with its propeller, could produce 27,500 horsepower at full power. The backing turbine blading, installed in the end of the L.P. turbines, could produce about half as much. Below the L.P. turbine in each engineroom was its main condenser, through which massive amounts of seawater passed to cool the final vapor back into liquid at a pressure so low it approached that of complete vacuum.

The two main feed pumps and the cruising feed pump were to port of the main condenser in the forward engineroom, and two high-pressure air compressors plus the starboard propeller shaft occupied the symmetrical space in the after engineroom. All this heavy machinery was below the upper-level walkways where the engineroom crew spent most of its time. On the upper levels, the enginerooms were cooled by strong ventilation blowers, which added to the hum of machinery and required men to shout into one another's ears to communicate. On the lower level, particularly near the main feed pumps, it was often hot and humid.

The two main generators and main switchboard occupied the port side of the upper level in the forward engineroom, and the ship's source of fresh water, the "low-pressure, double-effect distilling plant," commonly called the "evap," occupied the corresponding position to starboard in the after engineroom. The PacFlt standard allowance for fresh-water consumption was 20 gallons per-man-per-day for all ships, the "water king" could usually coax about 30 gallons per man out of the evap, but Captain Sims wasn't satisfied until his crew had 40 gallons per man, so Maury always took on extra fresh water whenever it was available.

The machinist's mate of the watch (MMOW), a chief or first-class petty officer, was stationed in the forward engineroom and was responsible for the operation of the complete propulsion plant and the auxiliary systems that fed the ship. Normally four men were with him in the forward engineroom, and an equal number, usually headed by a MM1/c, handled the after engineroom. There was lots to be handled besides the throttles, and the MMOW always had an electrician's mate beside him for the electrical system. Normally, on two boiler operation, almost 20 engineers were on watch at a time and several, such as the "oil king," were off the watch bill, but had responsibilities that required their services throughout the day and night.

At the end of a few quiet days at sea, Maury was relieved by Fanning and returned to the security of Great Roads, the huge anchorage outside of Dumbea Bay. Great Roads could hold every ship in the Pacific Fleet and was protected by a natural antisubmarine obstacle, the barrier reef, 10 miles to seaward. Maury fueled from an oiler and then nested alongside USS Grayson (DD-435) in berth 36. Since flagship Farenholt and Aaron Ward were both in the rear areas having their battle damage repaired, Capt. R. G. Tobin, ComDesRon 12, had shifted his pennant to Grayson.

Commodore Tobin was well known to Leveritt and me because he had been executive officer of Bancroft Hall at the Academy while we were there. His distinguished bearing and shock of pure-white hair had earned him the sobriquet of the "Silver Knight." He had more recently earned more important respect as the senior destroyer commander in both the second and third battles of Savo Island and had now been assigned additional duties as Special Representative of ComDesPac for the South Pacific Area.

The day after Maury joined the nest with Grayson, Commodore Tobin called a meeting of all destroyer captains to discuss common problems and to give advice to the newcomers. He also, however, wanted the ships and their crews to spruce up a bit and mentioned, as an example of how bad things had gotten, that he had actually seen a young lieutenant on one of the ships with a full beard.
I was absolutely flabbergasted. This young ex-cowboy reserve ensign had crammed into his head every bit of technical knowledge I had ever known about torpedoes, and then some! He was the kind we really needed to win this war. I apologized for having chewed him out and told him that he had done a great job.

His simple reply was, “Can I go to bed now, sir?” He had been working steadily for almost 48 hours!

“Permission granted,” I replied with real admiration, “and I’ll tell the captain we’ve got a first-class Torpedo Officer.”

On one of my first trips offshore after getting back to Noumea, I found my old friend and Naval Academy classmate, Lt. C. D. “Chuck” Fonvielle Jr., who was busy establishing a CIC training center ashore. Chuck’s ship had been sunk in one of the earlier actions, so he had been assigned to a group of battle-experienced officers assembled at Camp Catlin, near Pearl Harbor, to develop techniques and equipment, and to train crews in the use of radar.

As the fleet’s capability in radar galloped ahead, the need for change in the facilities and organizations aboard ship had become apparent, even at the higher levels of command.

To use air-search radars as more than warning devices, one had to keep track of numerous moving contacts, identify friend from foe, determine their courses and speeds, and guide aircraft to and from their targets. With surface-search radars, like the SG, many similar functions had to be performed for surface ships. All of these activities required plotting facilities, the use of many channels of internal and external communications, the ready availability of publications and data, and intelligent, trained people. The need to bring all of these elements together had produced the concept of a “combat information center,” where all the information available could be analyzed and acted upon. A CIC would be a powerful aid to a ship’s fighting capability, but no one in the forward area really had one. After he had participated in establishing the first CIC school at Camp Catlin, Fonvielle had been sent forward to do the same thing at Noumea. When he and I got together at the officers’ club, most of our time was spent discussing the new ideas and how to incorporate them into Maury.

On 10 June, Maury was ordered alongside the tender USS Whitney (AD-4) to receive an SG radar. Since there was no available space on the bridge level, Whitney’s technicians proposed to install the SG control console, which contained the PPI, in the Charthouse, one level below the Bridge. It was a wonderful location for the radar console, away from the weather and bridge activity, where the tactical picture could be observed in semidarkness, as required by cathode-ray tubes. There was also plenty of space for plotting boards and other displays. The only problem was that the captain, one level above, would have to get the results by word of mouth, instead of being able to see the radar scope and plots directly.

Captain Sims thoroughly understood the desirability of centralizing everything around the SG console, because that was where the tactical picture actually could be seen on the PPI. He would prefer to be able to see the PPI himself, but there was no practical way that could be arranged with the existing design of Maury’s Bridge and controls. He agreed, therefore, to locate the critical SG console in the Charthouse one level below the bridge and depend on me to evaluate the tactical picture. Since I would be the CIC Evaluator, he told me to make whatever modifications in the Charthouse I thought were needed to get the most out of the new radar.

Maury did not have a general-purpose telephone system. Key stations were linked by sound-powered telephones, which required no external source of electricity. These were normally manned by “talkers” wearing chestsets during GQ, but handsets were provided for use at other times. Individual stations could be called by pushbutton, and stations such as the Bridge or Quarterdeck had half a dozen pushbuttons to link them to other important stations. For Captain-to-CIC Evaluator communications, however, talkers introduced an unacceptable break in communication, and neither the captain nor I could be holding a handset to his ear all the time. Luckily, the navigation voice-tube system had outlets in the Charthouse, at the center of the Bridge next to the wheel, at the bridge chart desk, and next to the two wing peloruses. It offered the best channel through which the evaluator and the captain could speak to each other directly.

The charthouse, designed for the convenience of quartermasters with their unwieldy charts, would have to be rearranged for the new function. The massive three-by-six-foot chart desk, with its multitude of drawers for the chart portfolios of most of the world, was firmly attached to the forward bulkhead and contained, below its heavy hinged top, the delicate but essential DRT. By cutting out a rectangle of the table top, covering the hole with a translucent plotting surface, and building a projector to show a spot of light upward from the moving DRT “bug,” our ship’s position could be indicated continuously on the surface of the chart table. From this moving spot, ranges and bearings to targets could be plotted which would record their location and indicate their courses and speeds.

The full area of the chart table permitted a much larger plot than afforded
by the small DRT plotting table in the 2100-tonners. There was also room on the end of the chart table for a circular plot, where tactical formations and air contacts from the SC radar could be plotted. Happily, there was already a remote TBS speaker and handset in the Charthouse, as well as several sound-powered telephone outlets of key circuits.

If the chart desk was so modified, men would be required around it to do the plotting. To keep them from interfering with my view of the plots and the PPI, we unbolted the chart desk from its supports against the forward bulkhead and moved it to a new foundation far enough from the bulkhead to permit the plotters to work from the forward side of the desk. This left the remaining space between the chart desk and the radar console free for the evaluator and other observers.

To keep track of station assignments and code-names of other ships in company, two vertical Status Boards were mounted on the forward bulkhead above the plotters' heads so they could be seen from anywhere in the Charthouse. Though the light level in the space had to be maintained at a low level, so as not to compete with weak pips on the PPI, enough light could be permitted to see the developing plots and to read needed information from the General Signal Book, Tactical Instructions, or Voice Decode Tables. Members of the CIC crew also carried flashlights for reading fine print.

By 15 June, we in Maury had created the first complete CIC that any of us, including Chuck Fonvielle, had ever seen. The next step was to learn how to make it work. Lt. (jg) R. B. (Brian) Medler was designated CIC Officer, in addition to his duties as Assistant Communications Officer, and put in charge of the vital Surface Plot. Our new ensign Ken Bean was assigned to the Air Plot, and Ens. Len Shavick backed up both plotters and handled the TBS. Seaman 1/c Noble Acker, a pleasant Texan with a sharp eye and a love of radars, was assigned as SG radar operator at GQ. Our only rated quartermaster besides Chief Bachand, QM3/c Richard Grimm, was made responsible for maintaining the ship's navigational position, while others were engrossed in plotting targets.

When we completed our availability alongside Whitney, we rejoined TF-14 and tried out our new arrangement. The SG gave us a completely new window on the world. We could now see everything on the surface out to the radar horizon, day or night, and we could measure ranges and bearings as never before. Our maneuvers from station to station as the formation changed could be done with unprecedented precision. All air contacts on the SC radar were transmitted from the emergency cabin by phone and plotted on the circular plot next to our DRT plot. In short, we in CIC knew more about the overall tactical picture than we had ever known on the Bridge.

On 21 June, we were called back into Great Harbour to take our turn in ARD-2, the floating drydock. It had been almost exactly a year since Maury had her bottom cleaned and painted. The barnacles were surprisingly scarce considering the time we had been out of a dock. Good antifouling paint and steady steaming had kept marine growth to a minimum, but we would certainly be a couple of knots faster with a clean bottom. We also had a few more days alongside Whitney to complete some of Jim Winn's jobs.

On 26 June, we cleared Whitney's side with orders to escort the hospital transport USS Rochambeau (AP-63), destined for Melbourne, Australia. Hopes leapt at the thought of a visit to that fabled land, so the crew sailed to the southwest with joy. On the night of 29 June, the SG made radar contact on Australia—surely Maury's crew would get to taste the "promised land"—many of the men stayed up most of the night getting their uniforms ready. Next morning, the huge 3600-ton Free French destroyer Le Triomphant met us at sea, executed an "admiral's sweep" across Maury's bow, and blinked, "I relieve you."

With a saddened ship's company, Maury turned back to punch her way through stormy seas to Noumea. It was the roughest passage the ship had experienced since coming to the South Pacific. Day after day we crashed into huge waves in endless succession. As the bow dug in, then struggled upward, shaking with the effort, tons of water were heaved into the air. The Bridge and director were continuously drenched in salty brine. Below, men fought seasickness and collapsed in their bunks exhausted. Some chiefs took their blankets and pillows aft to find a spot where the deck wasn't rising like an elevator, then dropping out from under them.

By the time we reached Noumea, Maury had several cracks in her main deck running nearly beam to beam. Deck cracks are serious business, indicating the bending strength of the entire hull has been weakened. O'Brien, a single-stacker with raised forecastle like Maury, broke in two and sank in rough seas on her trip home to Pearl, after her hull had been damaged by a torpedo the day Wasp was sunk. The captain sent an urgent message ahead as soon as we were in visual contact with the Noumea signal station, asking for an inspection.

After making our way past Amadee Light, refueling, and settling in our berth alongside Whitney so the fleet maintenance officer could inspect our cracks, it was already midafternoon. When I got down to my stateroom after
This is the story of how I heard about WW II and wound up joining the Navy in 1942 – a month after Pearl Harbor – and some of what I did in the war as told to Sheryl in Feb. 2003. I enlisted for the duration and six months.

I went to work for the railroad in Sept. 20, 1940 in Missoula as a brakeman.

On Dec. 7, 1941 I was riding on a big steam engine pulling a freight train to Missoula and when we were going down through the Avon - Elliston area an agent handed a message up to the engineer that said... "Japs bombed Pearl Harbor!"

I had never heard of Pearl Harbor and my first thought was, 'where the hell is Pearl Harbor?' I also had never heard about bombs and didn't know what they could do, so didn't know what to think about the news.

In January a couple of fellas and I were in Missoula & decided to enlist. We tried to get into the Air Force but their quota for the month was full. While we were walking down the street a Marine tried to get us to come in there and sign up with them but we didn't want to. Instead we went over and signed up with the Navy.

After signing up, we probably weren't called until April. I went to Salt Lake City by train from Missoula to Butte, then south on Union Pacific to Salt Lake. I was in Salt Lake for a few days for a physical. It was the first time I was in a city of any size. Then I went back to Missoula for a couple of weeks.

After that I went to San Diego (by train) for active duty on March 11, 1942. We had to give up all of our personal possessions and they were shipped back home. The Navy issued our gear which we carried in a mattress cover temporarily. Later we were issued what was called a "sea bag". I rolled up my clothes and all other items in that bag.

In San Diego our bunks were numbered and we were quarantined for two weeks. We couldn't go out of the area at all. While there we got shots and had our heads shaved.

After the two weeks we were given another physical, got a rifle and learned to march and train. I was assigned to Balboa Park, next to the San Diego Zoo from May to June of 1942.

While there I tested for different schools and got called for electrical school in Detroit. I took all my gear and went by train from Los Angeles to Salt Lake and on to Detroit. I was in school there for six months.
From there I went to Norfolk, Virginia by train to gyro compass school. I was there for two months.

I was assigned to a Company with three officers in it and we were assigned ships. Our ship, called an LCI — Landing Craft Infantry — was manufactured in Boston. We went to Boston to see it and get acquainted with it.

The ship was 150 feet long and was designed to go into a beach and drop troops off. It was LCI #227. The bow of the ship went up on the beach. Two ladder like ramps were cranked out and dropped to the edge of the beach for soldiers to gain access to the beach.

I was in Boston for three months and the big news I remember while there was the fire in the Coconut Grove where a lot of people were killed. I was in Boston during Christmas of ’42. One of the guys in our crew lived in Boston and took three or four of us to his house for Christmas.

After that our ship went to New York. One night several of us wound up in New York City. We went to Times Square and got a taxi to go to Harlem. The taxi driver refused to take us there — told us we’d be robbed (at the least). He took us to Greenwich Village instead and we went to a bar there.

I saw the first cross-dresser I’d ever seen in that bar in Greenwich Village. This guy was up on the stage singing and looked like a lady until you looked at his shoes. He acted like he wanted to provide entertainment for the sailors. He sang in a falsetto voice. The sailors teased and made cat-calls. The guy finally got mad and left.

We didn’t know we were in a gay bar and had never seen anything like it before.

We took the ship on a ‘shakedown cruise’ — to make sure it was okay — and took off down the coast. Our first stop was in New York for a few days. After that we went south to Norfolk, VA and the three officers on board had never been out to sea before. We made it though.

I was the electrician on the ship. We had two big generators that supplied electricity to the ship. We changed over every day from one generator to the other.

There were 35 ships at Norfolk “in flotilla” (we were one of them) and we all went out to sea. There were 23 – 25 people on a ship. A huge storm hit and I could look over and see other ships in the high waves with their propellers out of the water. Everyone was sea sick and I carried a bucket around with me. One guy wasn’t sick — he was the Quarter Master — and he steered the ship.

I remember a 5 gallon jar of mayonnaise broke open and all that mayonnaise was sloshing around in the galley for 3 or 4 days.
We tossed around in the stormy sea until the ships could be steered to Panama. When we were on course we were going to Panama.

We asked for a ‘berthing’ or ‘tying up’ at the dock. Sailors were around, waiting permission to dock. Someone yelled, “get the hell out of there, you’re in the middle of a mine field”.

We spent a couple of weeks in Panama getting supplies and fuel and then took off again for the Pacific.

Another fellow on a different LCI was a pal of mine. We were docked with our LCI’s close to each other, and he came over to my ship. The cook had left a big batch of cold spaghetti in the galley. We grabbed a handful and chased each other all over the ship throwing it at each other. The next morning the Skipper found cold, slimy spaghetti on his compass. He was furious.

We had a young cook who didn’t know much about cooking. The kind of food we had on board included bully beef from Australia and lots of coffee. We had dried foods and lots of Spam. Once, one of the guys got a can of Spam and a big onion from home. He gave me a piece of Spam with raw onion on it. It was a real treat. Guess it was the fresh, raw onion that was the treat. We had dried onion and Spam on board. The supply ships brought food to us at various ports where we docked.

We landed in Bora Bora (near Hawaii) and were held there for a while.

From there we went on to Pago Pago in the Fiji Islands and on to Fiji Island. We stopped in New Caledonia on our way to Australia.

Two to three weeks later we were in Sydney Australia harbor (Feb. 1943). Winter was starting there. From Sydney we went to New Castle, Australia. There was a U.S. Army camp on the outskirts of the bay. My ship went to New Castle to get the soldiers to train. We actually spent almost two months doing nothing.

Our skipper was a fool and had been made an officer because he had a college degree. He was from Utah and had never seen the ocean in this life.

This skipper ran the ship up on the beach so all the guys could get out and get some exercise and play ball on the beach. He dropped anchor 100 yards or so before hitting the beach.

While we were there a big storm came in and this dumb skipper backed over the anchor cable. This fool couldn’t even run a wheelbarrow! He was trying to turn the boat around and the wind blew us up on the beach.
That night the tide was 30 feet higher than usual and moved our ship right up on the beach in the sand and there we sat. Our ship was stranded on the beach for 30 days.

The skipper relieved himself of his command and we got a new skipper. He was a salvage officer and was flown in from Pearl Harbor to get the ship off the beach.

He had kids from the area shovel sand off the beach (between our ship and the water). Somehow he got a bulldozer and dozed sand away from our ship. We waited for the flood tide (a lot higher tide) and hoped that it would come in far enough to get the ship off the beach and back out to sea.

While our ship was on the beach nothing was working (generators etc.,) so our crew stayed in a camp away from the ship.

While we were 'dead' on the shore with no defense, I remembered the LCI we saw in Mariveles Bay near the Bataan Peninsula. An LCI up on shore just riddled with big shell holes. It probably had been in contact with small ships from the Jap Navy. Being on an LCI, I could see what might happen. The ship was small. If it was hit by a Jap Destroyer there would be nothing left.

I asked the skipper, "what would you do if a big Jap Battleship came in where we are?" He said, "I'd ram him." I said, "you wouldn't have me 'cause I'd jump overboard".

Before the next flood tide the new skipper arranged to have another ship out in the bay to help pull us out. Besides using the bulldozer and the kids to shovel the sand away from the ship, he used high pressure hoses to wash the sand off the ship. When the flood tide came in he used the propeller to back our ship up and the other ship in the bay gave us a big jerk and pulled us back out into the water.

A few days later we were tied up somewhere and most of the crew was off ship and up in a small town. Because of the weather and tides, the ship broke away from the dock and floated away. I was on board that night. Somehow they got the ship back to the dock and tied up again.

While the ship was beached for 30 days they disconnected a lot of things and I told some guys that they had better hook up the overhead pipes that pumped the fuel into the galley (kitchen) from a big fuel oil tank. The pipes were overhead in the galley and the cook used the oil to cook with.

Of course they didn't hook them up so when he pumped all that oil into the galley it started a big fire. We had 17 fire extinguishers on board and everyone was running around to get them but they were empty. The sailors had been opening the CO2 fire extinguishers to cool their beer and even though they only
used a little bit of it, it caused all the CO to leak out. CO2 is a foam-like material.

We had to use sea water hoses to put the fire out. This happened while the goofy skipper was still on board and he was running around the ship yelling, "fire in the galley, fire in the galley!" After we got the fire out we cleaned up the mess and took the ship to get the galley fixed.

From there we went on to Brisbane. We spent two weeks there. Then we took off for New Guinea and while we were out at sea in the middle of the night a Dutch freighter shot at us. They thought we were a submarine. I was sleeping in the troop compartment and didn't hear anything. Our ship turned their lights on and when the freighter realized we were American, they stopped shooting.

We arrived in New Guinea at Milne Bay and stayed there for quite awhile – usually tied up close to shore. We could pretty much come and go. We heard about world events through the ship radio man. We did target practice at Milne Bay.

From there we went up the coast to Buna Beach and went to Finch Haven where we loaded up with Army soldiers. We landed troops at Dutch New Guinea.

When on land for awhile, we often got sea sick again when we went back out – especially in a stormy sea.

At Holandia, New Guinea we took on two Navy frog teams that went with us for the rest of the war. Each team had 9 swimmers – 1 officer. They were excellent swimmers and would go in and dynamite coral reefs so our ships could get in. They had a good mentality and would dynamite whatever they had to.

A US Navy Destroyer traveled with us all of the time. The LCI ship's defense was very limited. Destroyers tried to guard all ships in their area.

We were in Brisbane, Australia quite a long time and had physicals and dental work done. I had my wisdom teeth pulled there. I told the dentist that I didn’t think I wanted them pulled but he said he’d just take his pliers and 'poke around a little'. Next thing I knew he had my wisdom teeth out.

While here I had "ships leave" and went to a town called Tawumba – approximately 90 miles from Brisbane. We traveled by train and on the way the train stopped (stalled). I talked to the conductor and offered to help set hand brakes but he didn’t take me up on the offer. Finally the train got going and we got to the town.

Later we went over to New Guinea (by ship). We made 3-4 landings after New Guinea. We were around there 6 weeks or so. We landed on the islands around
there because the Japs were there. We landed troops on the opposite side of the island where the Japs were expecting them. The Navy demo teams were blowing up the coral reef so the US ships could get in there.

The Japs were shooting at our ship. Because I had been around guns I could tell bullets were hitting the water and zinging by us so I told the skipper to get out there. He moved back about a quarter mile. After that we went back to Hollandia in Dutch New Guinea.

There was a big invasion of the Philippines at Leyte Gulf. My ship was in a flotilla with lots of other ships, aircraft carriers and destroyers.

At night all of our lights were out and we communicated by radio ship to ship some of the time. Otherwise we used flags or light signals.

I was at Leyte Gulf for quite a long time. We went to the town of Zamboango in the Philippines. The demo teams went in to clear out mines and thought they had got them all but an Army ship went in there later and hit a mine. The Navy frog team felt really bad.

Zamboango was deserted. I was friends with the radio man and he and I went on to Zamboango and looked around. Looking back on it now I figure I'm lucky. There might have been some Japs hiding there but if there were, they didn't bother us any.

We went to sea at night because the Japs were using row boats and anything with explosives and crashing into the ships. It wasn't safe near the shores.

We went to the upper island of New Guinea — and around the Philippines cruising up and down.

While in New Guinea we heard a rumor that an army camp was installing a water line along the beach to their camp. We thought we could get fresh water and while up on the beach decided to have a ball game. Down the beach away there were about 20 fuzzy-wuzzy natives with big bushy hair. The Army got to organize a work party to dig a shallow ditch in the sand to put down a culvert on the road. The natives had shovels to dig the sand out of the ditch. It was comical to watch - one would shovel sand on the bank and another one would shovel it back in. A couple of them were getting a shovel full and throwing it up in the air and it was coming down in their hair - making some angry at the others.

While we were playing on the beach, we heard a rustle in the bushes. Two bushy haired natives were peering at us. They only watch a few minutes and then disappeared in the jungle. There were "head-hunter" tribes in New Guinea. We had been cautioned to stay away from the jungle area and not to mingle with any unknown tribes. We were on the beach area most of the time.
We enjoyed the day due to our ball game and watching the natives. We didn’t have too many laughs.

I was around there when we took Manila. I remember Corregidor Island. It was one of the last big battles in the war. We were going in to re-take the Philippines. Para troopers dropped on it. The Japs were there. We went up to Subick Bay – a sheltered bay. I stayed up there.

By then I had enough points to come back to the states. My friend the radio man (his name was Ford) knew a lot of general information and heard a lot of things. He came & told me that an aircraft carrier was going back to the states so we got to come home on that. It was the most pleasant part of the war for me. I had better food, a better bed and overall better conditions than any other time during the war.

We came into San Francisco on the aircraft carrier. It was a great feeling to sail into the bay at San Francisco after several years away from home. It’s hard to express the feelings.

After some time at Treasure Island, I went to Salina, California to see Aunt Min, my mom’s sister. She was the first person I saw from back home.

I went back to Treasure Island to a service center that helped servicemen and heard about a cancellation on a nice passenger train (rather than a stock train which most of the troops rode on). The passenger train was air conditioned and I rode home on it.

I changed trains in Ogden, Utah and headed for Butte. Jiggs or Ed Mollenburg met me in Butte and took me to Garrison.

I was home when the atom bombs were dropped on Aug. 6, 1945. I was in Garrison on VJ Day (victory Japan Day) on Aug. 14, 1945.

I went back to Seattle for awhile and then to Farragut in Athel, Idaho and then back to Seattle.

I got out the Navy on November 13, 1945 in Seattle, at Bremerton Naval Station.

I went back to work on the railroad as a Helena – Garrison brakeman on the local freight in February 1946.

Railroad employees were promised a job when they returned.
Battle in the Pacific: Blunders and Heroics

Sea of Thunder
By Evan Thomas
Simon & Schuster, 415 pages, $27
By Alistair Horne

WRITING THIS very near the 65th anniversary of Pearl Harbor, I can still recall—I was a British schoolboy in the U.S. at the time—the shock and horror we felt on that Day of Infamy. Although it was clear then that, with America’s entry into the war, there was something terrifyingly relentless, and seemingly irresistible, about the Japanese onslaught in the Pacific: the U.S. fleet sunk at its moorings, invincible Singapore taken from the rear, the Philippines lost, one island bastion after another seized.

Equally impressive was the passionate hatred for the despised “little yellow men” that Pearl Harbor provoked. “KILL JAPS, KILL JAPS, KILL MORE JAPS” exhorted one of Adm. “Bull” Halsey’s favorite billboards. Such feelings helped to galvanize, and unite, America as never before (or since). By 1944, the U.S. was producing a military plane every five minutes, and the U.S. Navy had expanded its ranks, since Pearl Harbor, by a staggering 266,000 officers.

For the Battle of Leyte Gulf, off the Philippines, in late October 1944, Halsey had under his command the most powerful battle fleet ever assembled. In the engagement, 300 ships and nearly 200,000 allowed to get in among a weak formation of slow “Jeep” carriers that were supporting the invasion forces.

With Farragut-like heroism worthy of the best annals of the U.S. at war, Ernest Evans, commanding his diminutive destroyer USS Johnston, ordered a close-range torpedo attack on the Japanese battleships. The Johnston was sunk, and Evans went down with it. But the determination of the attack caused Kurita to turn back. In what at the time seemed a decision totally at odds with the prevailing spirit of Samurai, Kurita—in the opinion of Mr. Thomas—was motivated by a desire not to risk the lives of the 80,000 under him.

Meanwhile, pursuing phantom carriers, Halsey was badly out of touch with real events. In Hawaii, Adm. Chester Nimitz, commander in chief of the U.S. Pacific Fleet, fumed. Assuming that Halsey was heading south to plug San Bernardino and smash Kurita, he telegraphed: “WHERE IS TASK FORCE THIRTY FOUR?” referring to Halsey’s force. He ended with the deadly insult: “THE WORLD WONDERS.” When “Bull” Halsey received the message, he broke into sobs of rage. It was, as Mr. Thomas reminds us ironically but fittingly, the 90th anniversary of the Charge of the Light Brigade—another epic blunder.

Halsey and Kurita both survived the battle, but their reputations did not. (Matome Ugaki also made it out of the battle alive, but the admiral died several months later, after Japan’s surrender was announced, when he pointless took 22 young men with him on a suicide mission that earned him a reputation as “the last of the kamikazes.”) In Mr. Thomas’s telling, this is a war saga of confusion at the top, counterpointed by heroism at the bottom, and he tells it grippingly well. But are there wider lessons to be derived? “Alternative history” is always irresistible. It was said of Adm. John Jellicoe, Britain’s World War I commander, that he was the only man on either side who could “lose the war in an afternoon.” Could the reverse have been said of Halsey on Oct. 25, 1944? What if the “Bull” had turned south, instead of north, and had intercepted and annihilated Kurita’s fleet? Might Japan have been defeated by spring 1945? No Hiroshima, no Nagasaki—no A-bomb.

The prospect is almost too loaded to consider. Nearer our own times, one might ask: Just how large a margin for error can a country at war afford? By 1944, the war was already won; a blunder like Leyte Gulf merely delayed the end.

But in 2006, one wonders how many blunders of comparable caliber can the U.S. and her allies afford.

even as early as the Battle of Midway, in spring 1942, it should have been apparent to Japan's leaders that they had lost the war—just as Kaiser Wilhelm should have read the writing on the wall by the end of 1914. At Leyte, the battle was a matter of honor for the Japanese navy—and, as it turned out, suicide. Yet the Japanese, even in defeat, might have inflicted a damaging wound on the exposed U.S. forces then invading the Philippines, had the battle been waged differently. By the same token, Halsey should have wiped out what remained of the Japanese navy, making V-J Day come earlier than August 1945.

Both the opposing commanders missed their chances. What went wrong? In a marvelous piece of historical reconstruction, Evan Thomas, in "Sea of Thunder," lays out before us the battle's human errors by tracing the actions of four men. On the U.S. side: Halsey himself, the ruthlessly aggressive commander of the Third Fleet, a kind of Patton afloat; and Ernest Evans, the heroic commander of the destroyer USS Johnston. On the other side: Adm. Takeo Kurita, commander of the main Japanese battle fleet; and Adm. Matome Ugaki, heir to Pearl Harbor's Yamamoto and now the commander of the first battleship division. Not prey to the passions of 1941, Mr. Thomas has taken commendable pains to study the Japanese side of the story with sympathy.

Kurita's orders were to fall on the U.S. invasion fleet in two pincer formations, via the narrow Surigao and San Bernardino straits that flowed between islands near the Leyte Gulf. Under him were seven battleships, including the monster-sized Yamato and Musashi—the biggest in the world, representing all the arrogant folly of Japan's naval challenge. The two ships packed 18-inch guns, heavier than anything aboard an American battlewagon, but had not yet fired them; each would be sunk, by submarine or aircraft, without ever encountering its U.S. equivalent. At best, Kurita's mission would have achieved the mopping up of empty U.S. troop carriers, MacArthur's army having already safely landed on various Philippine islands. Nevertheless, he was a daunting formation—essentially the last Japanese piece on the Pacific chessboard.

Had Halsey caught Kurita as he emerged from the San Bernardino Straits, by "crossing the T" in classical naval style, he could readily have wiped out Kurita's entire force. After all, Halsey's carriers had complete air supremacy. (Off Formosa, American planes had destroyed 600 Japanese planes—a third as many as the German Luftwaffe had lost in the Battle of Britain.) But Halsey headed north, away from the key straits. Furious at missing the carrier-won Battle of Midway, he was obsessed by the importance of the surviving Japanese carrier force and allowed inaccurate reports of its location to push him in the wrong direction.

As the "Bull" charged north, with all the arrogance of victorious pursuit in his nostrils, he committed a disastrous error: He divided his fleet—something Horatio Nelson would never have done. As a result, Kurita's massive force was