
THE U.S.S. ANTIETAM IN PHILADELPHIA NAVAL SHIPYARD

And yes, this then is the U.S.S. Antietam during December 1944, in the Philadelphia Naval Shipyard. You'll notice the welding sparks at the bow of the ship. The shipyard personnel worked around the clock to complete the ship for a January 1945 commissioning. In the meantime, we (the Antietam crew) occupied the building near the starboard side of the ship. It was an interesting time, what with all the activity. And, being in Philadelphia, it was only about 75 miles away from my home in Montclair, New Jersey. So I was able to go home a couple of times in December and January. This was both a rejuvenation and a great disappointment because "my" girl was both there and "not there." It also allowed for a few liberties in Philadelphia. But once we left the Navy Yard, I spent every night, for about eighteen months, on board the Antietam. It was home! I'd be lying if I said I didn't feel, deep down and unspoken, a certain stimulation knowing I was a part of this grand effort, this great enterprise, this magnificent ship. Here I was, still "wet behind the ears", being "allowed" to serve on an Essex-class carrier, a ship that would surely have a huge affect on the outcome of the war. True, I wasn't able to become an officer, but this was the next best thing, serving on a ship that would make a difference. However, it didn't particularly turn out that way. It turned out, instead, that we only supported the job that had to be done. (At school, I was fortunate enough to have been on the first team, and I didn't get to know the feeling of "sitting on the bench". Perhaps frustration is not an appropriate characterization here, but that word comes to mind. However I didn't fully understand what was involved with the word "action", though I was exposed to a lot of newsreels, etc. of war. Let's just say that I was inspired, on the inside only, without understanding suf-

ficiently the consequences of the word "action".) I can remember, when we were berthed in the barracks to the left, looking out at the Antietam and wondering what the future might hold, far from here, on that floating airport. Day in, day out, long they labored to form and shape and invest this marvelous vessel with the wherewithal to make the U.S.S. Antietam, as were all the "Essexes", a sturdy force with which to reckon. (Parenthetically, the U.S.S. Antietam's name-sake was the Civil War's Battle of the Antietam Creek, that battle which was the bloodiest day in American history when there were about 23,000 casualties that day. (Oh to sail a ship with such a name! Did this bode well for those of us who rode it into harm's way, should that be our destiny?) In any event, it was the result of that battle that Lincoln decided to announce the Emancipation Proclamation thus freeing all of those not so endowed. It did not have the grandeur of the later Gettysburg Address but it held a principle that rings through history and the following generations of all peoples in this country. Can it be said that the Antietam leads the way to freedom? No, but it's a grand thought.) There's beauty to the night here at the birth of this grand ship. So it is, day and night, night and day, the work went on to bring the U.S.S. Antietam on line. Yes, it was now sequestered in the depths of the drydock but soon, very soon, it would be set free and allowed to "get its feet wet". That it did on 28 January 1945 when the war was approaching a climactic ending in the Pacific Theater. There was yet much violent ahead as both sides were pressing for an advantage that would see them through almost four years of withering conflict. The thought here was would we be a part of the punishment being dealt by the Kamikazes?



THE U.S.S. ANTIETAM NEARS COMPLETION

Same ship, different view. Notice that the starboard side is “clean”. When we arrived at Pearl Harbor a couple of months later, we had five 40-mm guntub quads “tacked on” to the starboard side, one level above the hangar deck level. (These can be seen in the Flight Deck Activities chapter.) That object on the starboard side is a construction crane. I plan to have this picture and the previous one enlarged and framed. Some of those Navy photographers were actually artists, to my way of thinking. For instance, the fact that there are no details in these two pictures only reinforces the fact that this is a mighty ship. The stark lights and darks make for a dramatic image, so much so that it reminds me of my having thought, back then, that “this was going to be the start of something big”. As can be clearly seen in the previous picture, the Antietam was built in a dry-dock. This also reminds me of when we were in Pearl Harbor we were put in dry-dock to have the ship’s bottom scraped. So, with scrappers in hand, we climbed the scaffolding and started to scrap, and scrap. Not much was accomplished after two days of this. The next day there appeared workmen with sandblasters, and the job was done in quick order. (But when it came to painting the flight deck, we swabbies got out the mops and swabbed the deck front to back, with paint. No

spray guns here.) I can remember the pure drama I felt as I walked beside this monolith of majesty in the full glow of the illuminating lights. In a way it was an eerie feeling because it was a world so far removed from that which I had known. This beautiful scene also causes me to recall the weekend pass I had allowing me to see “my girl”. I believe it’s a truism that those important to us in large measure determine how we comport ourselves. A simple example of this is the fact that my interest in sports (football, basketball, baseball, tennis, etc. greatly diminished as a result of my unstated presumption that she was nowhere keen about those who liked sports. I suppose this is just a simple example of those we care about having a strong influence on our thoughts and feelings. In truth (and “in truth” should always be our motto) I thought she thought the lesser of me because of my interest in sports. Ever since then these games have lost their original luster; but no matter, I have replaced that with other more durable interests (that are especially of value in latter years. Mind you, I still greatly appreciate those who perform with skill and talent as I do for anyone who is skillful and talented in most anything. “Skill and talent” are “the name of the game”. Also, those we care about are in a very meaningful way our exemplars. Choose well!

At night the ship loomed so large that it almost generated the feelings that it was actually an apparition. This was especially so because the island structure was on the facing side, towering high above (even while the ship was residing in a dry-dock). There was something beautiful about this ship, this huge construct of steel in stately gray with form, fit and function precisely designed for a singled-minded purpose. If it wasn’t appropriate for the task at

hand, an appurtenance would not be there. To me, that was beautiful on a structure fabricated for a specific purpose. This was the epitome of a functional construct, made for one purpose only and beautiful in that functionality. I still marvel at the ingenuity of man to have built such a magnificent ship, both beautiful and functional at the same time.



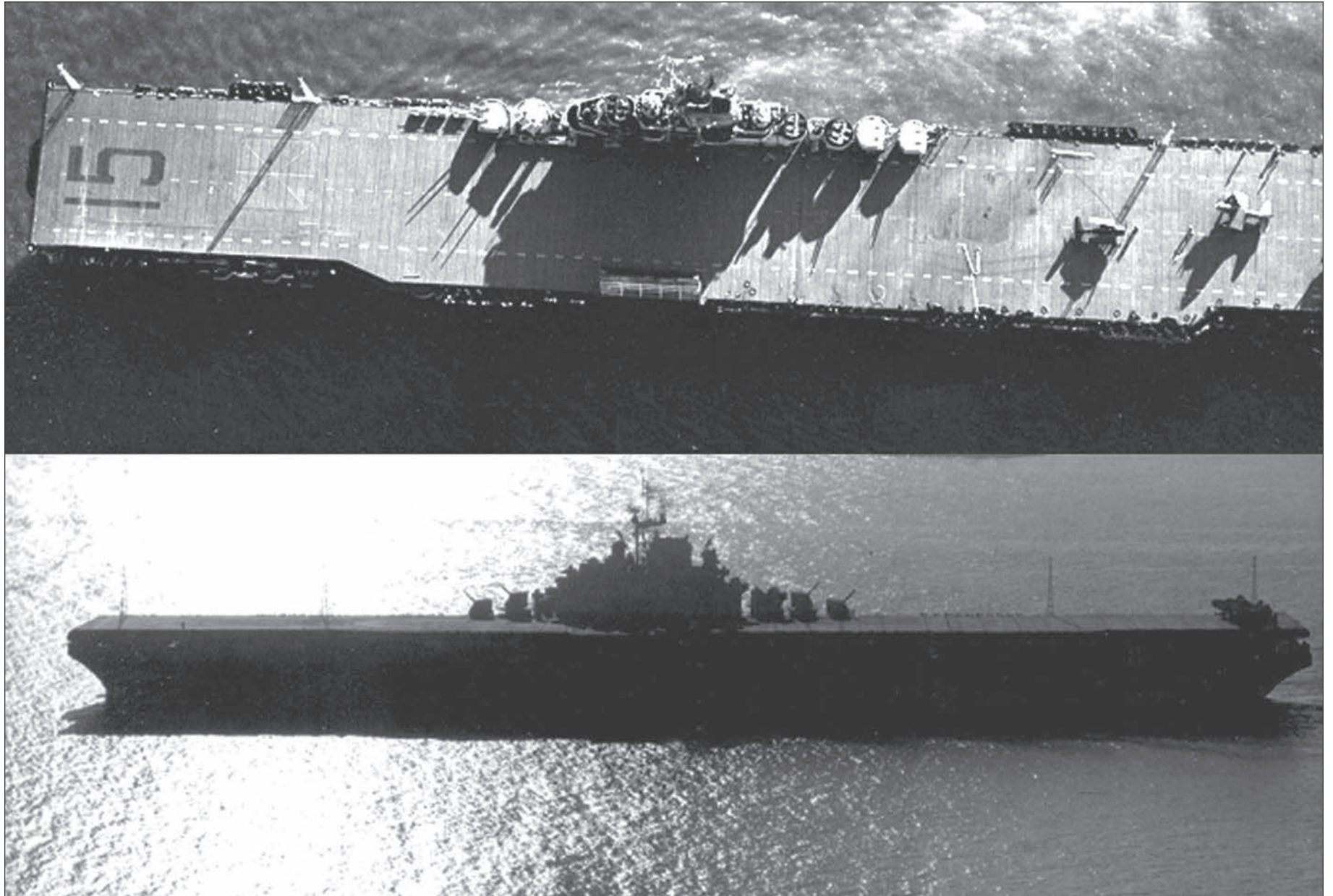
THE ESSENCE OF THE ESSEX-CLASS

These two pictures are configuration images, essentially showing the top and side views of the ship, and what could be called the visual essence of an Essex-class aircraft carrier. Since the flight deck is 300 yards long, the people in the top picture are obviously small. Although the flight deck could hold the 100 aircraft that an Essex carries, usually about one-third are held below in the hanger deck, and brought up to the flight deck when they were to be launched (or taken down to the hanger deck during landings to make room on the flight deck). In both pictures note the two dual 5-inch guns both fore and aft of the island superstructure. The top picture has nice clean lines that are distorted only in that the decked elevator, opposite the island superstructure, is folded in toward the ship. This is done so that the ship can transit the locks of the Panama Canal. The clean, symmetrical lines are especially evident in the below silhouette picture. Here too note the distinctive bow and stern, made that way so as to allow for the two 40-mm quad guntubs on both the bow and stern. (These guntubs are more clearly seen in the “Flight Deck” chapter.) I can remember how impressed I was with the size of this ship, but let’s make a few comparisons, then and now: then the Essex-class was about 100 feet shorter than now and less than one-half the tonnage. Then we had 3,000

officers and men, now they have 5,000. Then we had 100 aircraft on board, now they have 75 (most of which are larger). Then we had analog technology, now they have far superior digital equipment: computers, communications, radar, fire-control, etc.) Then we had no fire-fighting protection, now they have sophisticated protection. Then we had about 35 Airdales manning the flight deck, now they have little need for Airdales. Then we had no excess space, now they not only have “all” the amenities but also all kinds of open spaces. The amenities include such niceties as curtains for each individual bunk. Our only amenities were a small library and an ice-cream dispenser that was available only at certain times (I never did know where it was). I was dumb-struck when I learned that now they have a spacious room for lifting weights, etc. Back then such would have been unthinkable. The most egregious difference to this “chauvinistic oldster” is the inclusion of women on board a combat ship. Women can do wonderful things with their minds, but being savaged on the deck of a carrier is not a “woman’s place”, pure and simple. In many areas women are superior to men, often by far, but its certainly no demerit to lack some qualifications even where “heavy lifting” is not required. Besides, there are differences, so “vive la difference!”

They say that beauty is in the eye of the beholder. I believe they say correctly. For example, I say that this picture is beautiful while I’m sure that there are those who are completely unenthused by this picture. Part of their being unmoved is due to the content of the picture. This is too bad because often rendition can trump content (as I believe should occur here.). Things that are well done should elicit admiration regardless the content of the subject or activity. It’s all too easy to be biased one way or the other simply based on the content/subject. In so doing we are too apt to short-change ourselves,

to deny ourselves of that which is beautiful in its own right. Perhaps part of it is due to our laziness in being willing to be more observant. To be sure, we lose a great deal in life in not being observant (of things both large and small). Be alert to intrinsic beauty or life will “pass you by”. I can say with no embarrassment at all that it wasn’t all that long before I made this ship of gray steel my legitimate home. They say that sailors tend to “fall in love” with their ships. This I will not admit to but I will say that it was a near thing. All hail the Antietam!



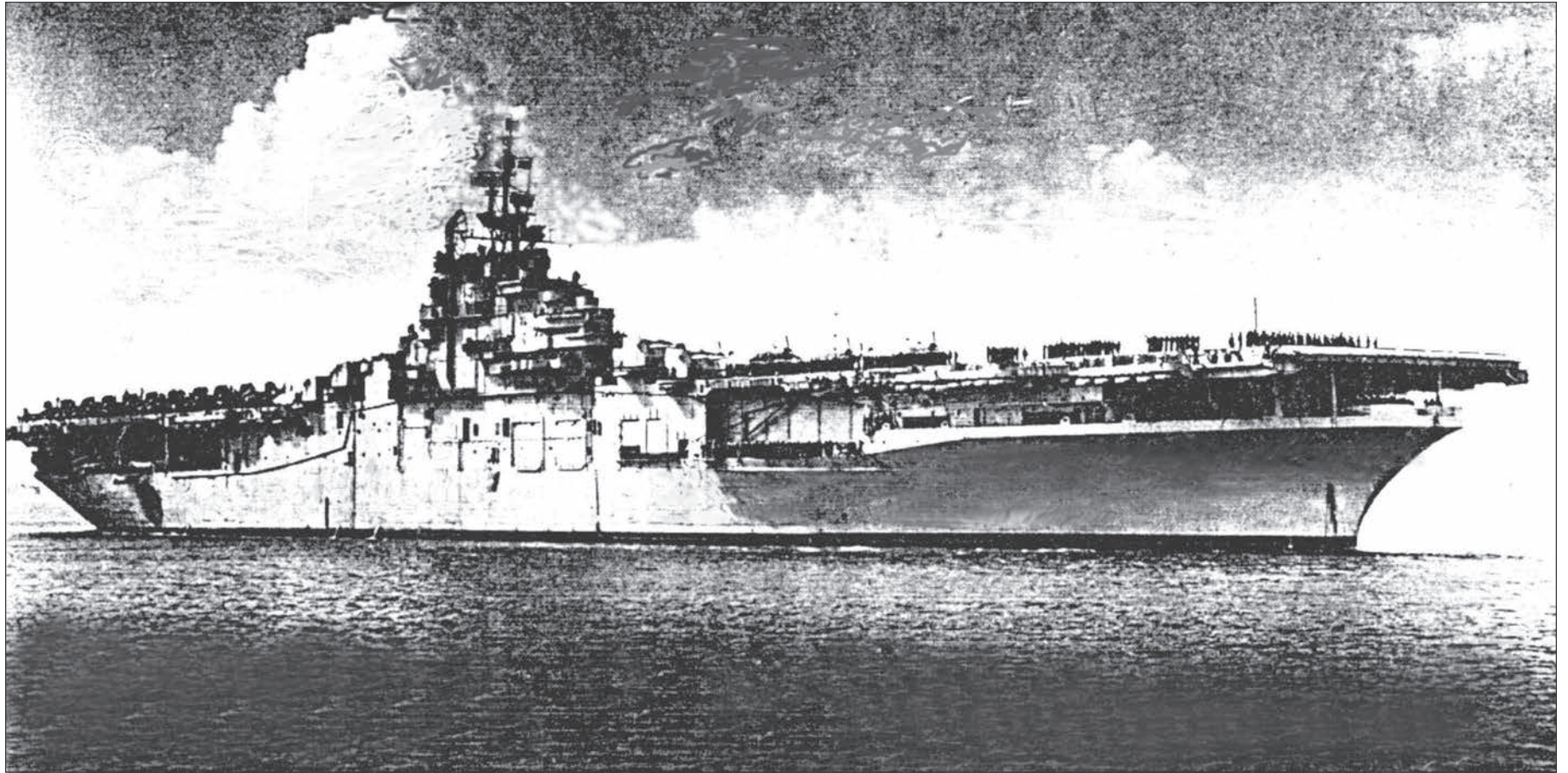
THE STATELY SHIP OF THE HIGH SEAS

In a deliberately diffused image, here is the Essex-class aircraft carrier in all its glory. The purpose of diffusing this picture was to present the Essex as a whole, and discourage its presentation as a set of details. Of course details are evident, such as the crewmen in orderly ranks up front, and the aircraft in orderly ranks back aft. One of the attractive things about the Essex, to my way of thinking, is the fact that everything that appears in this picture is absolutely essential. If it were not absolutely essential, it wouldn't be there. What are missing are the five 40-mm gunsponsons (guntubs) that later on will be attached to the starboard side of the ship at about the hangar deck level. Their absence here is because it hasn't gone through the Panama Canal yet. The clipper bow is one of its distinguishing features, and its long flight deck, instead of being the source of its moniker "Flat Top", is instead the reason one could call this ship, this Essex, "a stately ship of the high seas". (I can remember the sense of pride, unearned though it was, that I felt as I stood in the ranks on the flight deck during inspection. It was a small thing, but it was also a big thing.) Continuing the comparison of then and now, now the carriers have a canted deck (a deck whose landing area is at a 10.5 degree angle to the centerline; in 1952 the Antietam was the first carrier to receive this modification providing for a

525 feet long by 70 feet wide landing area that narrowed to a 32 foot width that extended outboard.) In addition in 1957 the Antietam conducted the first tests of an automatic landing system. This system allowed for a hands-off landing on a pitching, rolling and more importantly a heaving flight deck. Since then the system has improved markedly making possible night landings. The canted deck of course makes life much more agreeable to those on the flight deck. This is automation at its finest . It has been my "passion" since before I gained my electrical engineering degree. It's my belief that a nation is strong in a fundamental way to the degree that it can develop and support a technical capability to the extent that it can "care for itself". One looks at a ship such as this and only sees "the shell". What they don't see is all the marvelous intricacies that comprise this magnificent construct. I must say here that one-half of volume 3 consists of the wonders of learning about things that the majority of us only take for granted. To some, when I say I receive a legitimate thrill when observing all the complexities of a ship such as this, they will scoff. If these books do nothing else, I devotedly hope that the reader will no longer scoff but rather will at least appreciate such things. Such creations are a true joy. Enjoy!

Look at her. Is she not magnificent? Starting at her beautiful clipper bow (that holds two 40-mm quad guntubs) we move back on that straight and true flight deck, the domain of multitudes of powerful, stalwart aircraft. Next we come to that rising superstructure guarded fore and aft by two twin 5-inch gun mounts. Festooned atop the superstructure are all varieties of radar antennas, whether search or fire-control. Then follows that part of the flight deck that takes aircraft aboard with sometimes tragic results. Cupped at the stern are two more 40-mm quad guntubs. Now that's a lady with strong,

beautiful lines! Too bad she has to be named after America's bloodiest day in American history (that made possible the Emancipation Proclamation). Of course I honor these who fell on the field of battle to, as it turned out, make possible the actual freedom of a group of people singled out because of their heritage. To me, this was the right thing on its merits but in a larger sense Martin Luther King had it perfectly correct: It's not the color of the skin but the quality of the character of the person. Yes! Yes!



A CLEAN LOOKING SHIP

This view clearly shows the two 40-mm guntubs on the bow. Both guntubs had four guns each, and this will be made clear in the chapter “Flight Deck Activities”. Also made clear here is the deckedge elevator, port side, in its normal configuration (level with the flight deck). Just in front of the starboard side 5-inch gun mounts are two upright radio masts between which was strung a low-frequency radio aerial. During flight operations these masts were lowered 90 degrees, outboard, so as not to interfere with the launching of the aircraft. Two similar masts can be seen back aft of the island superstructure. Changing the subject, when I was in the Navigation Division for a short time, and off duty, I’d stand in the forward part of the bow’s guntub and “ride the waves”. There was of course nothing in front of me, just the wide open ocean. It was a quiet, restful place (when there was no flight operations). For some reason, I sometimes had it all to myself. With no distractions to interfere, I would think back to home and what was happening there. This didn’t happen often though, because this area belonged to the Gunnery Department, and they felt proprietary about it. When it was vacant, I guess it was good “quality time” (if wondering and worrying about what was happening back home was “good”). I can remember the first sojourn of the Antietam as it slowly cruised down

the Delaware River on its maiden voyage. There to the left was New Jersey. When would I see it again? Would I see it again? Thus a source of depression sets in. The subject of depression is a depressing one, both mentally and also physically for depression saps your energy right down to your very marrow. The unknown will do the job very well, just as will an environment of deception and deceit. Yes, deception breeds depression as surely as does the unknown. The good news is that with the banishment of deception and the unknown there is very little between you and a modest, subdued elation. It’s difficult to fend (avert) deception and deceit but the unknown can respond to remediation by learning from proper books and legitimate experience. As to deceit and deception, yes, it’s difficult to be “assaulted” by it day in, day out. However, here too knowledge must be our refuge against these constant assaults. And yes, knowledge is often difficult to come by when that very knowledge is tainted by those wishing to deceive. But be of good cheer because GOOD books are your path to salvation. To the point, knuckle down and read all points of view and let your rational thought guide you through the thickets of deception ill-conceived. Not to be too sophisticated here, dig deep into the basics of reality.

Flight Deck, there it is in all its glory. A book can not be written about a flight deck per se but it can be written about in terms of what happens there as men and machines inhabiting it. Each day on the flight deck is essentially the same, day in and day out. Yet, each day is different from the day before and the day to come. What transpires each day is not determined by a “cookie cutter” and woe be unto he who thinks thusly. The god of the fates shall not let it be so. There is repetition, to be sure, but there is no such thing as a sure thing. Wind, the Airdale’s nemesis, has an unpleasant

way of being capricious even while requiring it to be at least 30 mph over the bow of the ship during launch operations (during launch operations the ship turns into the wind and uses the ambient wind over the bow of the ship plus its own speed to generate that 30-mph wind). Little did I know that shortly after embarking on the Antietam I would be at the helm steering this 30,000 ton giant (with all due respect to those present sailors riding the 80,000 ton variety).



COMING HOME TO ROOST

This could possibly be the U.S.S. Antietam receiving her first flight of aircraft, of a total of about 60,000 over a period of a year (90 aircraft per flight times 2 flights per day times, yes, 7 days per week times 4 weeks per month times 12 months out of the 13 months I was on board the Antietam; recall, we were a training ship that trained squadrons of aircraft before they were deployed to the Task Forces). This SB2C is just circling the ship and is not in a landing pattern. First, he's too high. Second, he's not lined up enough with the ship, even though the ship is moving at probably 20 knots. Third, the fighters land first so as to be in the forward position when the aircraft are respotted back aft (by the Airdales) for the next flight operation. The faster the ship's motion, and/or the faster the wind over the bow of the ship, the less the relative motion of the landing plane and the flight deck below it. This made for fewer bad landings, and for fewer bad days. In general, though, the combination of the ship's speed and the wind velocity over the bow of the ship had to be 30-knots. I can remember the anticipation I felt as that first aircraft rounded the landing pattern to line up for a landing on board the Antietam. It was tense as it approached closer, but not to worry, there was no problem. Besides, there was a certain beauty in the steady, every 20 seconds, landing of an aircraft, most always without incident. Initially, to this neophyte this was not a sure thing: one could not put out of one's mind the "Law"

which said that "If things can go wrong, they will go wrong". This is not a suitable attitude with which to go through life, by any means. If they go wrong, so be it. However, to brood on it can only be counterproductive (this is a favorite word of mine; it implies that one should always be alert to what one does and what one thinks, and not jump to conclusions especially if new "ground is being plowed". Thoughtfulness is a powerful word: it can refer to one who uses his/her God-given mind in a constructive manner such as acknowledging all sides of a situation by giving them recognition. Or on the other hand a thoughtful person is also one who is considerate of others and their condition. Is it so hard to show, or at least feel, a concern for others' thoughts and feelings? [Note for the tough guys out there, this is far from being of a "touchy-feely" attitude. At the risk of appearing of another age, what ever happened to the concept of chivalry? The "knights of old" were hardly a soft touch: "In days of old when knights were bold..." Think of what a splendid place this would be if chivalry were the norm and no one would be afraid of being kind and considerate and thoughtful! One can dream as is said in the song, "The Impossible Dream". Better to dream than to wallow in mental and emotional squalor that allows for no courtesies. The definition of an honorable man is "gentleman". Is it possible for a "gentle" man to be a "man's man"? Yes, of course, if you understand the term "man".

Consider a pilot who has been cramped for hours in a confining cockpit having undergone the emotional fatigue of flying over miles and miles of unmarked ocean. Then consider the utter relief of seeing that speck down below which is his haven in a hostile world. Home may be where the heart is but never has something looked so good as that long, flat object below as it leaves a fully churned wake below. The awaiting Airdales on the deck can only

hope that that weary pilot is composed enough to see his aircraft neatly caught by sturdy arresting wires strung across the surging deck. Sometimes those arresting wires never did catch the tail-hook trailing behind the aircraft and so there was a set of five barrier-wires strung across the deck to stop the errant aircraft. Even then there were times when the landing aircraft would hop those wires and smash the aircraft parked up ahead. Woe is me!

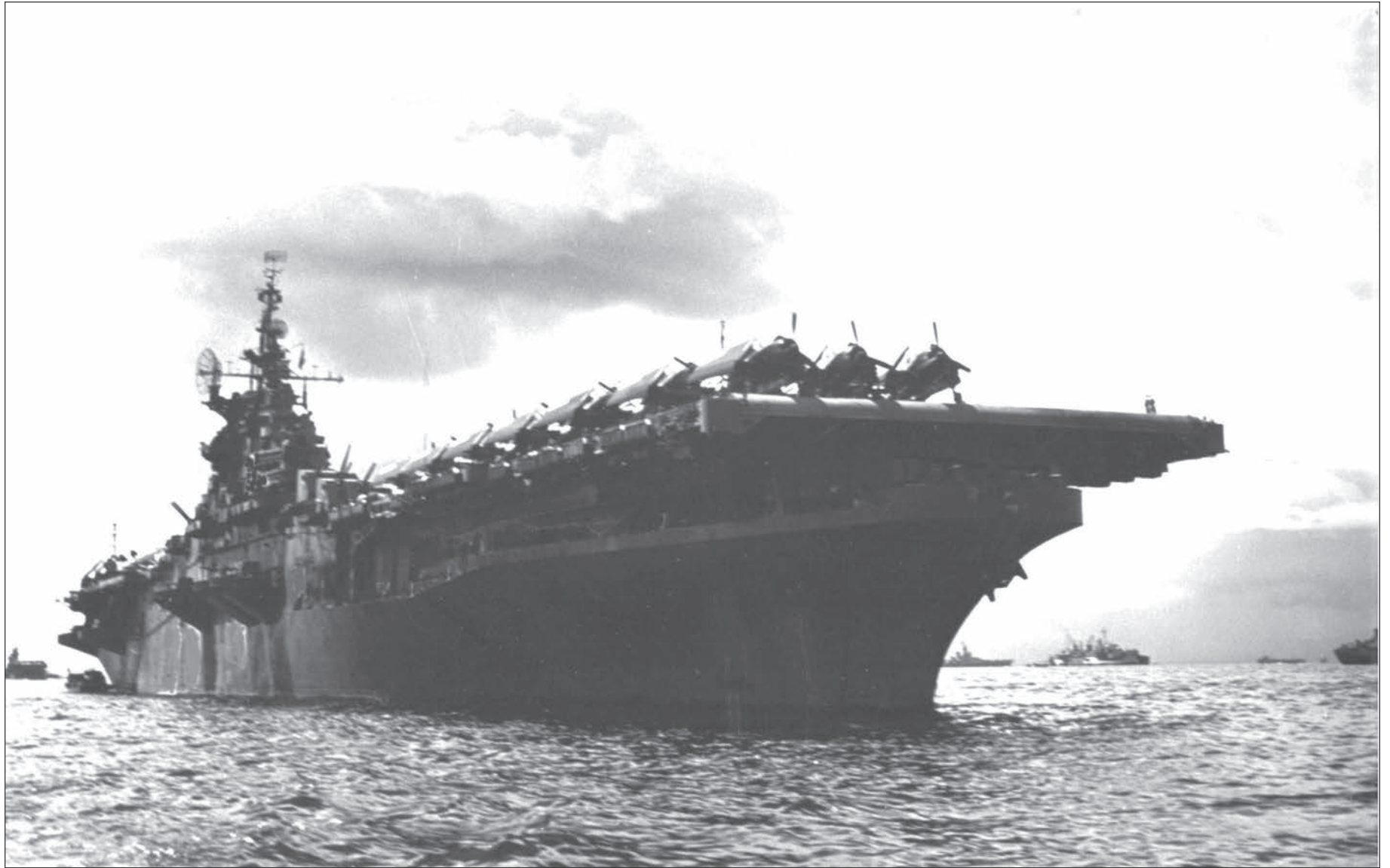


HALF A DECKLOAD

I particularly like the lines of the bow of the ship in this picture. Also, one can see that this ship has been through the Panama Canal because it has the five 40-mm guntub sponsons “tacked” onto the starboard side of the ship. An important element of this picture is the placement of the F6F Hellcats. Notice that six of them can be parked side-by-side. With thirteen foot diameter propellers this leaves little useable space between the aircraft when one is negotiating one’s way to a wheelchock during flight operations. These aircraft are where they are after having taxied there after a landing operation. This process can be highly hazardous, and is covered in the “Landing” and “Parking” chapters: boys we were then, yet men we had to become in the face of those slashing blades as presented by those “enormous” 13-foot diameter propellers, the bane of our existence. Fierce winds and deafening noise added to our everlasting consternation, but we’ll leave that till later. Now, to look at this picture one might think that the flight deck was but half occupied. Probably not, yet there are those who would say that the deck is half unoccupied rather than half occupied. That is, the pessimists say the glass is half empty while the optimists say that it’s half full, a classic case of negativism vs. positivism. It would seem that those who concentrate on the outcome of a situation will be torn between the positive and the negative. First, why go through life dragging the anchor of negativism and pessimism? On the other hand a positive, optimistic attitude promotes a resilience that sustains life. Why not concentrate on those things that can not be taken away from you, such as the beauty of Mother Nature? Be of good cheer in this. Also, remember, “God helps those who help themselves”. To wit, “GOD give me the SERENITY to

accept the things I cannot change, the COURAGE to change those things I can, and the WISDOM to know the difference”. You might be well advised to choose, and choose wisely, a mentor to whom you can “go” in times of stress and negativity. Some would call this religion. Call it what you will, but “go” to it. The song “You Raise Me Up” from “secret Garden” comes to mind. Find and go to that “You” Speaking of “Secret Garden”, a personal note comes to mind, full of sweet thoughts: one day we went to my granddaughter’s dance recital, she of about 12 years. After “endless” groups of young girls of all ages going through their hyperkinetic gyrations (I’m being unkind) to music that frankly grated on the nerves (I’m an “oldster” after all) Finally, finally, my granddaughter’s group appeared, all in their chiffon dresses, dainty as only young girls can be. Then to the enchanting music of “The Promise” from the “Secret Garden”, they glided effortlessly to the music, graceful as can be. It was a sheer rhapsody, unspoken till now. Perhaps such as this should not be spoken in such a book as this.. Yet when such delight and innocence comes to mind, I’m a soft touch.

That raises the question: should an Airdale be a “soft touch”? Well, why not? When tough work is to be done, it’s done. Then when simpler times arrive, they are savored. A one-dimensional person is an uninteresting person, unable to enjoy the a life full of different things. Yet, this does not leave one “Carte blanche”.: rules still apply. In fact they always apply. What kind of a world would it be otherwise? Enjoy within the bounds of propriety and you’ll be happy, or so so you should be, (This is long but necessary.)



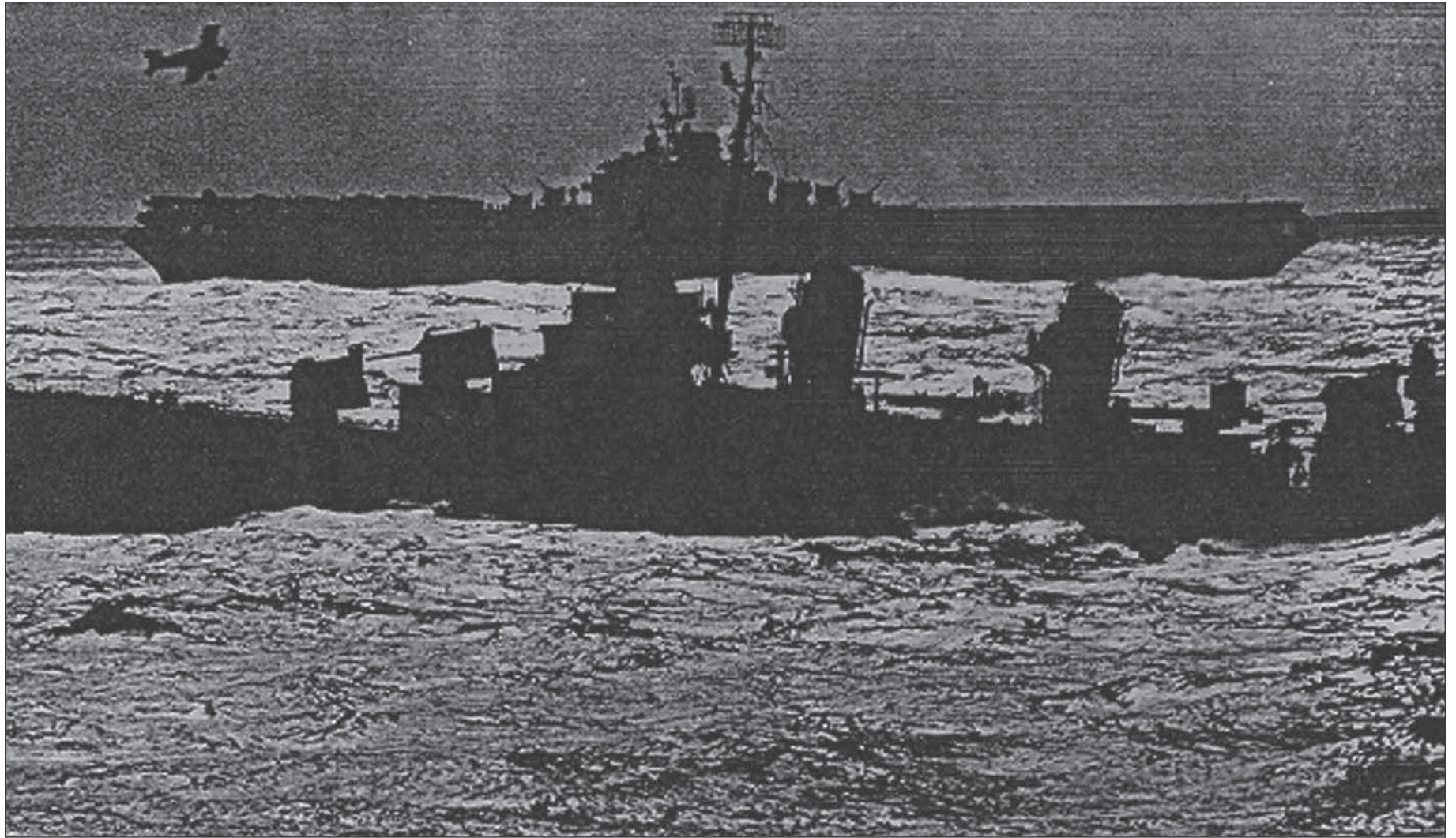
THE ETERNAL TRIO: DESTROYER, AIRCRAFT AND CARRIER

This next picture epitomizes our operations: the carrier, an aircraft, and one of the two destroyers that always accompanied each carrier. (There were always two Essex-class carriers that would steam the ocean together, at least in our duty as a training ship.) Silhouettes are sometimes most effective, and I believe that applies here. Notice the destroyer's torpedo tubes amidships, among other things, and notice the carrier's five-inch guns pointing skyward. They were only used for defense against enemy aircraft. It was never a case of using them against surface ships. The carriers would naturally stay away from a battleship's 16-inch guns and even a cruiser's 12-inch guns. Enemy aircraft were enough of a threat, especially since it was always "Get the carriers!" Notice that the forward third of the flight deck is loaded with aircraft. That implies that landing operations are taking place, although the aircraft in the picture doesn't seem to be in a landing pattern. But he's also too low to be a part of CAP (Carrier Air Patrol) in a defensive position to ward off enemy aircraft. Here again, a silhouette makes for an effective picture. We, the U.S.S. Antietam, and the U.S.S. Boxer didn't very often get this close to each other. It probably had something to do with spreading out the target we formed. I can remember, when I was in the Navigation Department, sitting on the

after-bridge's lookout chair looking out over at the accompanying ships and feeling, that this is the Navy I used to daydream about as a boy as I played with my small, 8-inch wooden model of a destroyer. A quaint recollection this, but a valid one. It's interesting why certain memories are retained vividly while others are vague and still others are vapid. The medical people tell us that certain of our memories are more reinforced by the emotional content we feel at the time of the initial incident. This would definitely apply to my experiences on the flight deck. The impression is more strongly stamped if the corresponding emotion is strong. This then begs the question as to what precisely is an emotion. Is it primarily visceral or mental? The former was prominent during my duties in and among the fired-up aircraft. I can vouch for the fact that that will "stir the juices". It's a fascinating thing, the creation of memories and why we retain some and not others. I have long been interested in the workings of the mind and so was especially intrigued when the technology of computer neural networks came upon the scene. Some of them depended on the concept of reinforcement of learned thoughts and capabilities. These ideas are more thoroughly discussed in volume 3 and will be a subject of impact in the future (that I wish was mine).

In the sports world this is called team-effort: individual members of a team be accountable to the team's success. This is one of the main reasons I like to participate in team sports: your contribution is returned by the others' contribution. You are all in it together. (Winning is all fine and good but a MUCH better good is to improve your performance, whatever that may be). While I like team sports my most favorite one is tennis. There you are, on your own, displaying hand-eye coordination, pure skill, strength, endurance, superior intelligence, heart. As I now watch a tournament I'm

particularly taken by a young player from Serbia. She is young but has developed all the above attributes to a level very high level. Her loveliness from head to toe is matched by her delightful comportment, both of which are much more important than her skill. Would that the world were inhabited by people as nice as she. This of course is a pipe-dream that all too often looms large on the stage of life. Is it too much to ask that everyone have a delightful personality with a strong character to match? Probably, unfortunately.



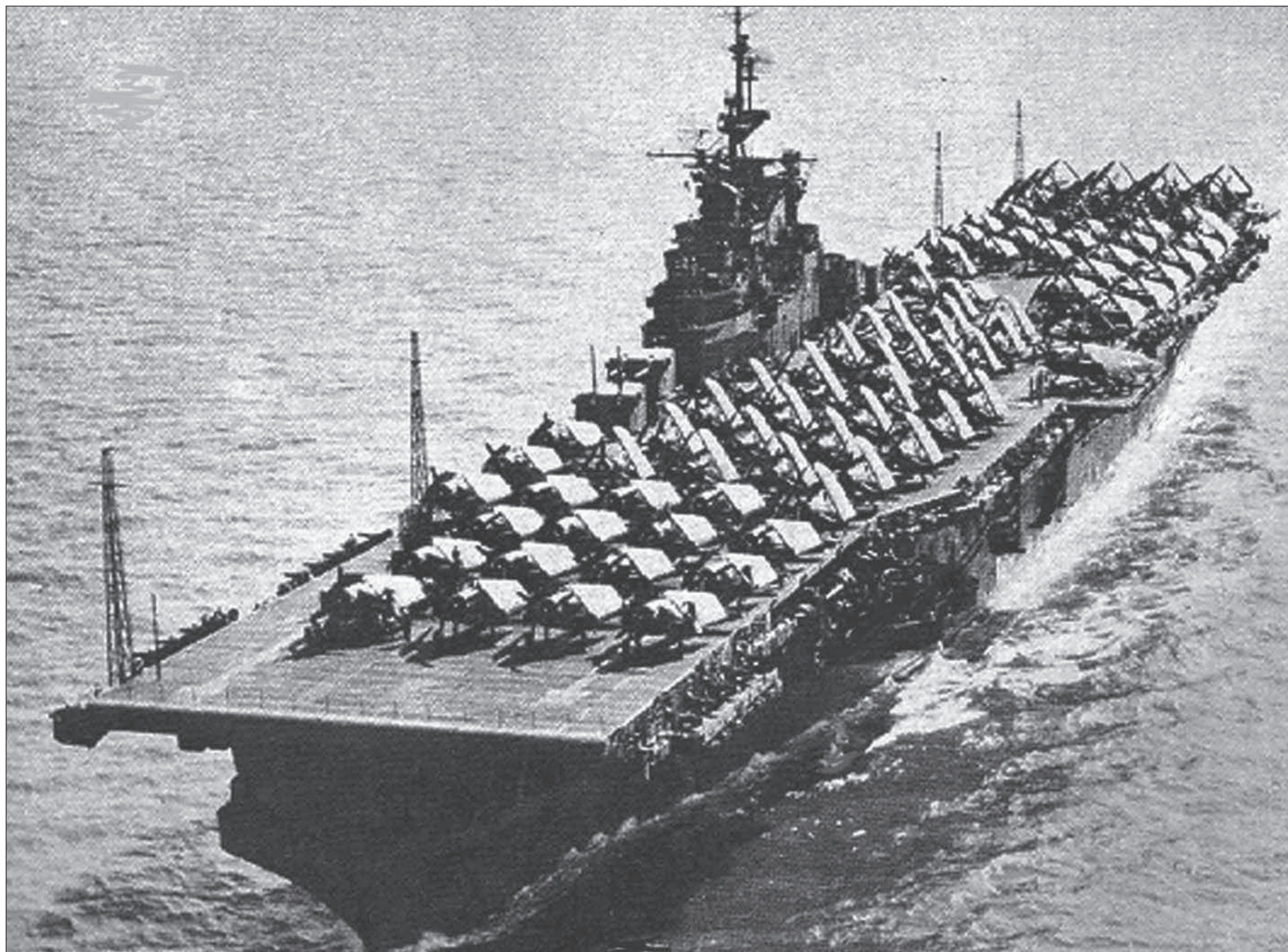
ALL ABOARD, WE'RE OFF TO WAR

I chose this picture to show a carrier's "armament," its reason for being. An Essex-class aircraft carrier carried a complement of 100 aircraft, as explained previously. Before flight operations, many of the aircraft would be below, in the hangar deck, awaiting their transfer topside via the elevators, engines warming up. To catapult an aircraft, there would have to be open space from just behind the aft radio antenna mast (which would be lowered outboard ninety degrees). As aircraft were launched, others would be brought up. This picture shows the F6F Hellcats, five-across the deck. Using the six-across arrangement, there'd be more space up forward and so less time would be required to get the aircraft airborne. This in turn means less time that the airborne aircraft have to wait before forming up and leaving for their destination. So, on our ship, we mostly used the six-across arrangement, especially since we launched most of the 100 aircraft. The significant thing to be aware of is that, for the F6F and F4U aircraft, the tips of the propellers reached out as far as the wheels of the aircraft. This will be discussed further in the "Launch" chapter. But suffice it to say that under packed-deck conditions, it was "Airdale beware (of propellers)." This picture shows about 80 of the 100 aircraft on board the ship. I can remember when we were at Trinidad on

our shakedown cruise and I was still in the navigation division: I roamed the packed flight deck before a launch and felt as if I were in a veritable "forest of monsters". An exaggeration, to be sure. We all do it to one degree or another of course. For comedians this is their stock-in-trade along with the absurd. Also, exaggerations that rides the waves of enthusiasm is fair enough; however, exaggeration done deliberately to deceive deserves naught but scorn. Life is already plagued with too many unknowns to further blur it with deceptions. Such as exaggerations even if done for desired impact. Playful exaggerations are known to be in jest and are taken that way. No harm done. However, there's danger in excessive exaggerations in that one could well begin to believe them and thereby doing one harm. It's been an act of faith to me throughout all these years that if I did nothing else I would forever be absolutely honest with myself about myself. Self-delusion represents an unstable foundation even with the laudatory self-cheerleading. Banish the former and augment the latter. You'll be glad you did. [Throughout this book there'll be little "homilies" as this. Their purpose of course is to stimulate your own thinking on on what has been said. Heaven knows, they are certainly not "written in concrete". Very little has been.]

There they stand, row on row, column on column, but a portion of the 100 aircraft on board the Antietam. From a distance the aircraft appear to be but toys. You can be assured that this is grossly misleading. At up to 10,800 pounds they are formidable machines with propellers on the fighters measuring 13 feet in diameter. This leaves precious little safe space between them in which the Airdales can maneuver during launch operations. Chapter 4 will discuss this problem in more detail. Keep in mind that a ship not only pitches and rolls but it also heaves as on an

elevator. Add to this the ferocious winds in amongst the aircraft and you have a touchy situation that threatens life and limb. It should be said, though, that one attains his sea-legs early on. If not, ones health becomes problematical if one happens to be an Airdale. We all have situations that require special skills to negotiate our way through life, whether they be mental or physical. It would be well if we learned them early on. Yet how nice it would be if life were not so complicated. There are such places where this is so for those who wish it so.



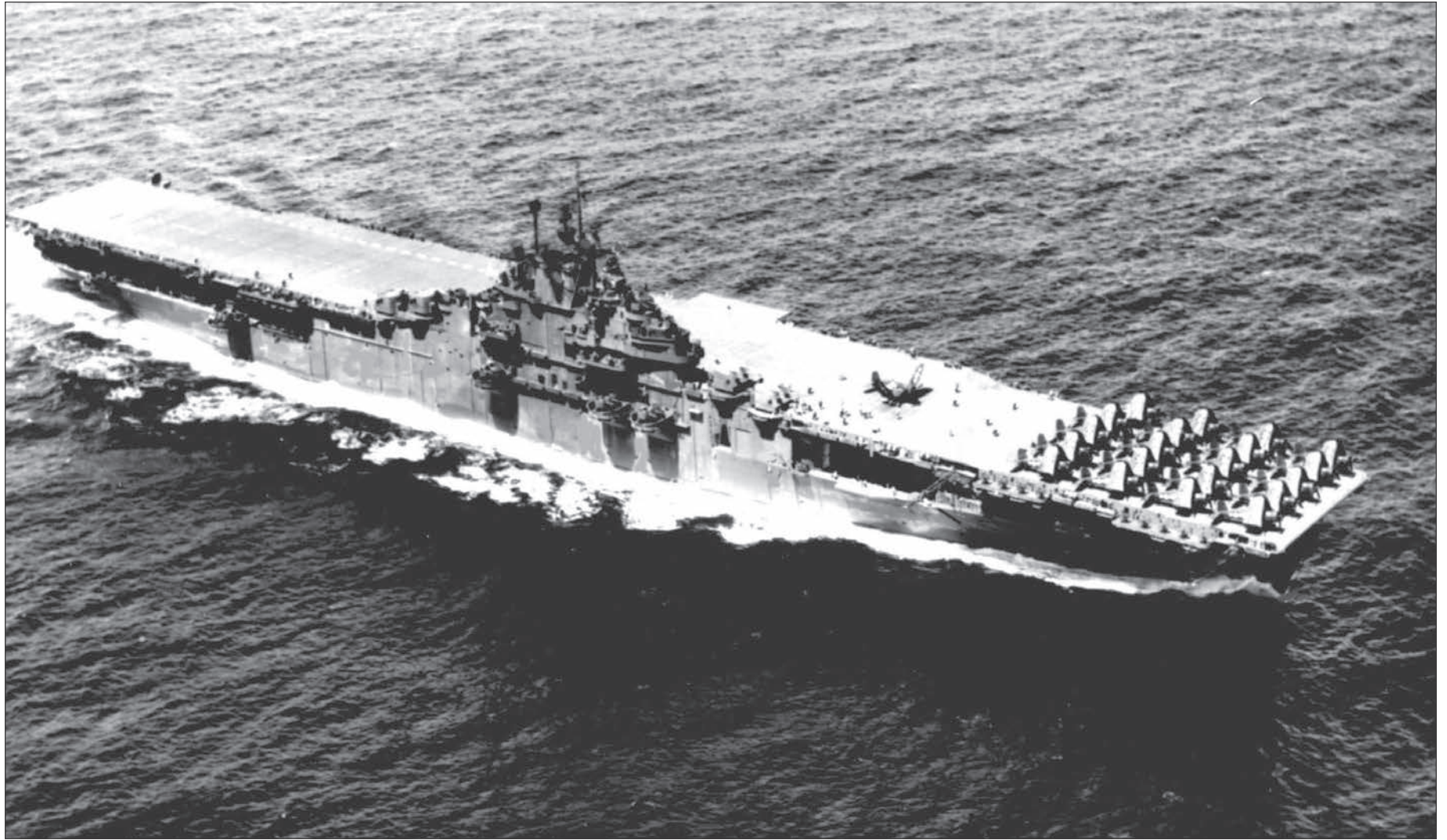
ROW ON ROW, COLUMN ON COLUMN

This picture shows well what a carrier is all about: a floating airport with everything geared to accept and service high-powered aircraft. The Essex-class aircraft carrier was the length of three football fields, with a flight deck wide enough to carry six aircraft across its narrowest dimension. (Usually, during landing and parking operations as shown here, the aircraft were parked five across because time didn't allow packing them in any closer. Normally, there would have been another aircraft that had just landed back aft, as well as the one shown here taxiing forward. The landing intervals were 20 seconds between each aircraft as they touched down.) The island superstructure is flanked by two twin 5-inch gun mounts, fore and aft, and the upper part is populated by numerous communications antennas and search and fire-control radars. Three thousand personnel crewed this city-ship, and there were ratings for everything from aircraft mechanics and other technical jobs to the "blue-collar" workers manning the flight deck. An Essex-class carrier was certainly a magnificent construct, and if you'll pardon the phrase, a "thing of beauty". I can remember standing on the bridge, looking down onto the flight deck, wondering how those below managed to stay composed among all that sound and fury, among all that motion and commotion. At the same time it also occurred to me that I was up on high safe from the rigors of

an active flight deck while those down below were those subjected to the vicissitudes of launching aircraft, landing aircraft and parking aircraft. Why should I be safe above while those below were not? The reason must be that life is not, can not, be even. In fact, life seldom is "fair" even in the best of times. This of course brings up the question of what "fairness" is. Fairness implies evenness and evenness in life is an impossibility. Keep in mind that evenness is not equality, which connotes equality of opportunity. This is a goal while evenness is a fiction. How can the steering of a ship be made "even" with working on the flight deck? It can't nor should it be. Regardless of what is and is not "even" we should all count our blessings and be thankful for those that we have. It is only when they are arbitrarily taken from us that we should rise up in remedial action in that the quality of fairness is not to be denigrated. Fairness is, or at least was, an integral part of our culture and woe-be-to-us if we let it go by the wayside. Disputes as to its meaning will go on and on but this in turn is a healthy thing in that we more clearly define its meaning: what is clear to me is not clear to you and visa versa. As to the flight deck, as they are wont to say, "somebody has to do it". To be sure but nevertheless is there compensation? The gunners in the TBM and SB2C bombers received extra hazard-duty pay but not so for the Airdales. Fair?

This picture portrays the essence of the fleet aircraft carrier: to carry as many capable aircraft as possible to any ocean location as it cuts through the seas at speeds in excess of 30 mph with as much anti-aircraft gun-protection as possible. Only a kill=joy would say that this picture is not as neat as those aircraft parked up forward. Keep in mind that those aircraft are being parked, cheek-by-jowl, in a matter of fractions of a minute. This apparent haste must be balanced against the ever present danger of overshooting the mark and "chewing up" the aircraft in front of it. This of course places the Airdale in jeopardy of

being struck by flying shrapnel. In effect, an Airdale's well-being is in the hands of the pilot and the plane-director. If either one of them makes a mistake, the mistake takes on dire consequences. In effect, the Airdale's life can be almost literally in the hands of two essentially strangers. If either one of those two strangers (the pilot and the plane-director) makes a mistake the Airdale could receive a death-dealing dose of shrapnel. This near calamity is dealt with much more fully in Chapter 7. The parking situation is probably the Airdale's worst activity because he has absolutely no control over what happens.

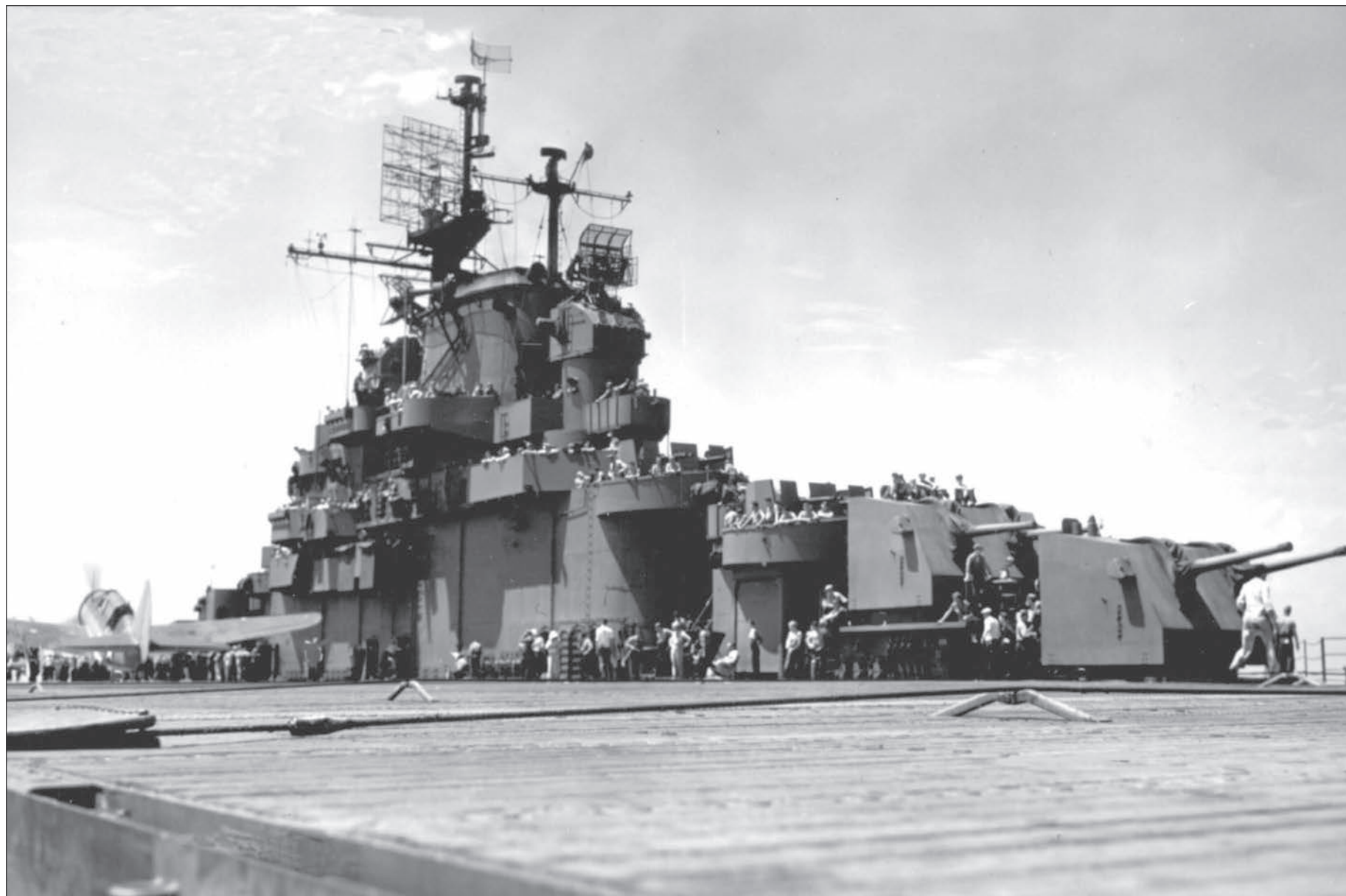


THE SUPERSTRUCTURE

This view of the superstructure, looking forward, showcases the two twin 5-inch gun mounts, behind which are two 40-mm quad gun mounts. These guns were of course to provide anti-aircraft fire and were certainly not to be used against surface ships. The accompanying battleships and cruisers were for that purpose. Also clearly seen is the 5-inch gun fire-control radar, and above that the big surface-search radar. Up forward are the captain's bridge, the wheel-house (steering), the navigation chart-room, the communications rooms, and other such equipment rooms. An aircraft has just landed, and the arresting-gear wires have just been elevated by the brackets that are raised out of the flight deck. (The Airdales are up forward parking the powered-up aircraft.) Landing operations always drew a crowd up in the superstructure, but there was no applause for those down below on the "playing field". To me, the prime beauty of this picture is that everything seen here was for a specific purpose. There was absolutely nothing there that was in any way superfluous. One could say it's the beauty of pure utility. All was neat, and only functional. This was a ship after all, not a building. Filigreeing has its place, but not on a fighting ship. There's a purpose for everything that's there, and if it has no purpose, then it's not there. That, in its own way, is beauty I can remember, when the aircraft were aloft and I was able to walk about on the cleared flight deck, thinking what an imposing island structure this ship has, with all those levels of gear for this and that, here and there. It was impressive! Consider, if you will, the multivariable knowledge required and wrapped up in this superstructure. For starters, those 5-inch guns had the difficult job of shooting down a target that moved in three dimensions at a high speed while it was taking a non-straight-line course. Now understand that the platform on which the gun resided was unstable in that it was taking evasive action at the same time as it was rolling, pitching, yawing and heaving. Thus the relative motions of the target and the gun became highly complex requiring the subjects of algebra, analytic geometry, spherical trigonometry and calculus. With the math solved it then required the sub-

jects of mechanics, mechanisms, electricity, electronics, communications, automatic controls and various other areas of knowledge. (It was this problem that in large measure inspired me to return to college to earn an electrical engineering degree.) Yet there were many other forms of knowledge represented in the superstructure besides the aforementioned gun fire-control system (discussed at length in Volume 2). There were the communications antennas for both low (long distance) and high (ship-to-ship) frequencies and those in between.

The superstructure also contained a wealth of communications antennas from the long-range low frequency ones to the ship-to-ship high frequency antennas and those in between (the ship also had signal blinker-lights and signal flags for close-in communication during radio-silence). In addition there were multiple search radar dishes, both air-search and surface-search plus the gun fire-control director/fire-control radar dishes. (To my knowledge, we did not have sonar equipment because it was the destroyer-screen that provided that capability/requirement.) Thus we were heavily invested with the equipment for defense, all of which represented the application of a broad-based knowledge-store. What then can we say about the term "knowledge? One thing we can say is that without it we will only tread-water. Knowledge is represented by the condition of knowing facts and implying veracity. One could say that knowledge is the combination of knowing and understanding. In the strict sense, knowledge deals with reality. Knowledge is qualitatively distinct from belief, opinion, understanding and intelligence. To wit: 1) Belief affirms from experience (empiricism), or more willfully, on faith, or on authority, or from conjectures based on insufficient evidence without verification, or sometimes is prone to conclude from inconclusive inference (yet belief often affirms certitude); 2) Opinion derives from reflective thinking on incomplete knowledge or unverified conjecture or from partial inferential evidence; 3)



Understanding comprehends not only the verified knowledge or the conclusive belief but also, to understand implies the ability to perceive the meaning, to clearly apprehend the nature and nuances of a subject, to be conversant with an idea; 4) Intelligence is the accumulation of understanding.

Knowledge is the stuff of life. What would we do without it? That which is learned is better than that which is handed to us. As an adjunct to this statement there's benefit to be derived from restating in our own words that which has been presented to us: one's apprehension is strengthened when we rephrase the knowledge or explain it to someone else. Just so, for instance, do we solidify our understanding when we reword Archimedes' Principle that a floating body is buoyed up by a force equal to the weight of the displaced fluid (a boat floats because it is supported by an upward

push of an amount equal to the weight of water that is equivalent to the amount of water that the boat replaces; more wordy this, but it has the advantage that this can enhance our basic understanding). Using this process you make the fact "your own" and the more explanations you can derive, the more solid is your comprehension. Saying the same thing over and over is not as useful as saying something in multiple ways (but be on guard not to shave the truth of the matter). Be aware that knowledge, strictly speaking, is an accumulation of verifiable facts, albeit some facts are more verifiable than others. This can be a detriment to a salubrious (favorable, healthful) society. One of the beauties of science and engineering is that these subjects are more verifiable than the social sciences (at least to my way of thinking). Knowledge is strength, the strength derived from learning, and at its most fundamental, knowledge is understanding the knowing.

AFTERTHOUGHTS: The preceding discussion of knowledge is a neat segue to a very important subject, namely, schooling. In fact, it might be the preeminent problem of our time. To quote the beginning of the Boy Scout Law, "On my honor I will do my best to do my duty to God and my country. . . ." It is the youth of our country who are the torch bearers of how this country will proceed, for good or bad. This in turn naturally leads to the subject of schooling, i.e., learning. If the schools do not generate a high level of students the country will have a tough slog ahead. Thus, why are those who are sincerely concerned with the level of learning, and acquisition of useful knowledge, that is being acquired by the country's youth? It is my contention that the level of learning is in direct proportion to the level of INTEREST a student has for a subject at hand. To my way of thinking one learns in direct proportion to the amount of INTEREST one has for that subject. It

is the "sine qua non" of all learning. If one shows a desultory attitude toward the subject being learned the subject will not be learned. It's as simple as that. Unless and until the student develops this "love" of the subject at hand there will be essentially NO learning acquired. Q.E.D. Money will essentially be wasted almost in its entirety. Teachers will be "spinning their wheels" and the country will be at risk. In my case, during the war I was fascinated with the new technology as was such as gun fire control (servomechanisms and radar), communications and the like. I scoured publications to learn more. I kept this up until I finally made the decision to go back to school to do it right. That is, I went to a local college full time to earn a degree in electrical engineering. This was not easy since I had to take a very heavy schedule (I was an economics major previously). But there was no way that I was not going to see it through. And what was the impetus? Say it in unison: INTEREST!