

Sub Tzu & the Art of Submarine Warfare

By Commander Frank C. Borik, U.S. Navy

19-20 January 2009, North American Submarine Warfare Symposium, Annapolis, Maryland, simulcast on the Global Military Teleconferencing Network—As everyone is well aware, in the Spratly War two years ago the Chinese Navy successfully toppled the U.S. Navy from its throne of sea domination, a position that the United States had occupied since the latter days of World War II. Ten months later, this document surfaced on bulletin boards throughout the Internet. "Dragons and Centipedes¹ at Sea" is a telling essay that gives exceptional insight into the doctrine of the Chinese Navy and key elements of its innovative strategy. Its author, Captain Hei Shwei, constructs a framework for a naval strategy that emphasizes submarines, small craft, mines, and inexpensive but effective technology to create what may best be described as an "insurgency at sea."

Hei's ideas were considered radical when this paper was written in 1996: he advocated a return to the "Young School" thinking of guerrilla warfare at sea that characterized Chinese naval strategy during the Cultural Revolution.² Nevertheless, his work caught the eye of Admiral Whang Wimzhang, a submarine officer who strongly supported modernization. Admiral Whang assigned Hei as head of submarine operations for the Chinese fleet, where his outspoken manner and emphasis of Sun Tzu's strategic principles quickly earned him the nickname "Sub Tzu" among U.S. intelligence experts. His ideas apparently had significant influence on the Chinese General Staff, as evidenced by their implementation in the Spratly War ten years hence.

What was truly revolutionary was Hei's conceptualization of how to leverage inexpensive, common technology to transform a merchant fleet and a previously disorganized assemblage of pirates into an effective force multiplier for the professional navy. As in Vietnam, the United States was caught off guard in the South China Sea and was unprepared to fight a "naval insurgency." The challenge that remains to our own strategists is how to fight and win in the next naval engagement, whether it be conventional or along the lines of Hei's previously underappreciated theories.

Captain Hei's article, reprinted here, was translated by scholars at the Office of Naval Intelligence: All footnotes and editorial annotations were provided by the Office of Naval Intelligence staff. Following the essay, Rear Admiral Joseph J. Kirob, director of the Office of Naval Intelligence, offers some brief observations.

Dragons and Centipedes at Sea

By Captain Hei Shwei, PLA(N)

China has historical interest in the offshore waters.³ For thousands of years our fishermen and merchants have sailed these waters to the continuing benefit of our people and those who depend on us. Our great fleets once ruled the seas and maintained order so that trade would be free and prosperous.⁴ In more recent times, we have increased our reliance on seaborne trade and on the natural resources that these offshore waters provide. Indeed, the continued survival of our people now depends on these resources. Therefore, China's increased reliance on the sea obliges the People's Liberation Army (Navy) (PLA Navy) to develop a naval strategy that can help our country provide for the needs of its people, defend its interests, and protect the interests of its allies.

The contemporary PLA naval strategy, the offshore active defense, employs the Navy to establish and maintain strategic depth for national defense and to safeguard China's military and economic maritime interests through defense of the offshore waters.⁵ Unfortunately, the current naval leadership focuses on developing a large and powerful navy to realize this strategy,⁶ and being so focused, misses the subtlety and the power of our ancient traditions.

This is not to say that a capable and professional Navy is not important. But these professional forces do not have to be large, complicated, or expensive, because they act only after the enemy has been weakened. Indeed, the true power of the Chinese military lies in our people and in our strategy. The naval leadership must recognize and use the power of our merchant and fishing fleets, the advantage of order and harmony⁷ that our Navy brings to the region, and thus employ the power and wisdom of our strategic traditions for China to know victory on the seas.

Naval Warfare and the Strategic Tradition of Sun Tzu

The Chinese people do not need the complexity and expense of big sophisticated machines to be victorious at sea. Complexity and great sensitivity in thought and strategy will prevail instead. General Sun Tzu taught us the Way [Tao] of victory. These Ways are as familiar to us as they are unfamiliar to our enemies. Thus, our enemies will fail because they fail to understand us.

➤ *Initial Estimates.* Sun Tzu said: "Thus it is said that one who knows the enemy and

knows himself will not be endangered in a hundred engagements. One who does not know the enemy but knows himself will sometimes be victorious, sometimes meet with defeat. One who knows neither the enemy nor himself will invariably be defeated in every engagement."⁸

The enemy is both easily known and very dangerous. He wields great power and is well practiced in controlling unimaginable destruction. Yet he has vulnerabilities.

The enemy is obsessed with the great, decisive Mahanian battle at sea. Though his rhetoric has professed littoral operations and "Engagement and Enlargement,"⁹ he continues to show his arrogance through his weapons and tactics. He will try to concentrate his firepower and smash his opponent quickly and decisively. What he fails to understand is that he cannot do this if there is no opponent waiting for him. We will be dispersed and, therefore, not vulnerable to his massive attacks.¹⁰

The enemy relies on the sophistication of technology instead of the sophistication of strategy. His command and intelligence organizations have vulnerable centers that can be attacked. He is overconfident and thinks that victory simply awaits his coming. But it will not be so. These weaknesses can be exploited through superior strategy.

Our forces understand the enemy and know that we are not powerful enough to attack where he is strong. Yet it is possible to use inexpensive, commonly available technology and the power of our fishing and merchant fleets to exploit the enemy's weaknesses, to distract, confuse, and wear him down. Our professional Navy can then attack and gain victory.

➤ *Deception.* Sun Tzu "Warfare is the Way of deception. Thus although [you are] capable, display incapability to them. When committed to employing your forces, feign inactivity. When [your objective] is nearby, make it appear as if distant; when far away, create the illusion of being nearby."¹¹

Deception is the art of infecting the enemy's perception of reality so that he falsely perceives and thus falsely acts. It is most effective if we fully understand the weaknesses of our enemy. For example, the enemy depends upon centralized detection, tracking, and targeting systems for standoff weaponry. His success depends upon a few operators sorting through much data. Large numbers of decoys, such as false periscope masts and buoys with radar reflectors, would easily confuse these operators. Will the enemy waste his weapons on these decoys, while our small ships and submarines hide among them? Of course he will, just as the British did in the 1982 war of the South Atlantic,¹² and we will meet him quickly and strike him silently.

The enemy sees what he expects to see. Appearances can be altered to show what the

enemy wants to see but what is not there. False hulls placed alongside docks, holographic imaging, and electronically deceiving the enemy's intelligence systems are simple deceptions. Inserting false television pictures into satellite news reports also is powerful and subversive. How would the world react if it believed it had witnessed an enemy attack on Shanghai? Could we not then justify use of our own forces?

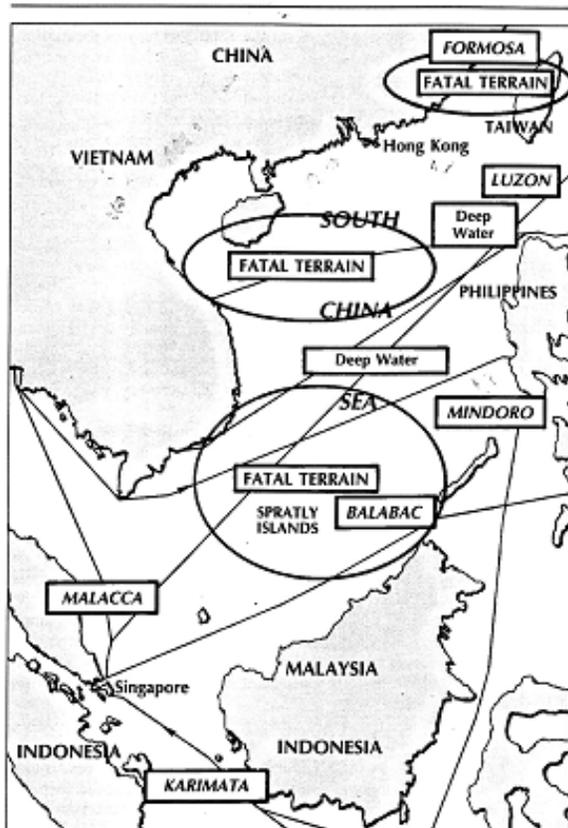
Important things can be hidden easily because the enemy does not look in places where he does not expect to find anything. Vertically launched cruise missiles and intelligence-gathering equipment can be hidden within commercial shipping containers and then placed strategically for use where and when needed. In this manner, numerous supply bases can be hidden along the coast or on small islands. If fishing and merchant ships are equipped for guerrilla operations, how can the enemy distinguish between those that are equipped and those that are not? Will this not confuse and cripple his naval aviation?

There are also many ways to hide within the rivers of electricity and sound. Cellular networks can be used for secure communications if the signals are interspersed with

ordinary conversations and then recombined at the receiving station.¹³ Buoys with transponders or radar emitters would make a cloud of electricity within which our forces could hide. Small fishing and trading vessels can tow acoustic decoys that make the same sounds as our submarines. The enemy's antisubmarine forces will chase the wind, while our own submarines remain hidden.

The irregulars are integral to deception. All fishing and merchant vessels would have at least one deceptive mechanism. Fishing vessels would seed periscope decoys, transponder buoys, and floating radar reflectors. Merchant ships would transmit false radar signals and tow acoustic

Figure 1: Entrances to the South China Sea & Fatal Terrain



jammers. Imagine the confusion that thousands of falsehoods would create for the enemy!

The enemy believes that his forces should be trained as they will fight. This is foolish. More foolish is that he believes that we will do the same. But if the enemy locates our submarines as they train, will he not grow overconfident in his abilities? How does the enemy know that our submarines did not want to be detected?¹⁴ He does not know. That the weak appear strong and the strong appear weak is beyond his calculus.

➤ *Military Disposition.* Sun Tzu said: "In general, commanding a large number is like commanding a few. It is a question of dividing up the numbers. Fighting with a large number is like fighting with a few. It is a question of configuration and designation. . . . One whose upper and lower ranks have the same desires will be victorious."¹⁵

The art of command rests on quickness, decisiveness, and wisdom. Forces cannot be restrained by a cumbersome, centralized structure that relies on the few to decide for the many. All must know the Way. The successful commander will make his wishes known in such a way that the warriors can decide and act independently. Cellular telephones, personal computers, and direct broadcast satellites can give immense power to the forces by giving them intelligence and allowing them to harmonize their efforts without meddling from the commander.

Western strategists have written about such open command structures¹⁶ and command by influence.¹⁷ In contrast to their strategists of vision, however, Western military leaders do not understand or practice this open command structure. They are blind and so will be vulnerable.

➤ *Provisioning.* Sun Tzu said: "Thus the wise general will concentrate on securing provisions from the enemy. One bushel of the enemy's foodstuffs is worth twenty of ours; one picul of fodder is worth twenty of ours."¹⁸

The enemy needs a large amount of provisions to support his complex and ponderous war machine. Yet he desires to deploy quickly to achieve decisive victory. To do this, his provisions must be ordered and their transportation must be methodical and precise. So the enemy packs his provisions in containers that are inventoried, sealed, and marked, and tracks them electronically.¹⁹

It would be easy to disrupt this fragile order by entering the enemy's accounting systems from the Internet. Would his suppliers deliver without being paid? Would the provisions arrive at the correct destination if the routing instructions were changed? Could we not alter these routing instructions and have the enemy's provisions delivered to our ports? Are not the once-disordered warriors now ordered and harmonious, and could they not assist in provisioning our forces by taking from the enemy?²⁰



The irregulars—towing acoustic decoys; seeding the seas with periscope decoys, transponder buoys, and radar reflectors; and snaring enemy submarines in their fishing nets—are integral to deception.

➤ *Planning Offensives.* Sun Tzu said: "Those who excel at defense bury themselves away below the lowest depths of Earth. Those who excel at offense move from above the greatest heights of Heaven. Thus they are able to preserve themselves and attain complete victory."²¹

In his insight and wisdom, Master Sun tells us how to turn technology into irresistible power that will infiltrate and destroy the enemy. With the submarine, intelligence from the heavens, and navigation and communication devices, the People's Navy can rule the offshore seas.

The submarine can bury itself within the ocean and travel far into the enemy's territory. It can remain hidden by using the configurations of terrain and is thus immune to air power and missile attack. Submarines can remain at sea for long periods with little support and are therefore ideally suited for guerrilla warfare at sea. Guided by satellites and outfitted with wake-homing torpedoes, supersonic cruise missiles, and surface-to-air missiles in reloadable masts, the submarine can strike at will and cause great disruption and confusion. It cannot command the sea in the Mahanian sense, but it can deny command to our enemy and thus will be decisive in his defeat.²²

Yet the enemy also has these submarines, and he is very skilled in their operations. We would be foolish to attack them with our own submarines for we would suffer great losses. Therefore, we must move like water around them.

Enemy submarines are difficult to catch, but in years past, our fisherman have

"inadvertently" caught prowling enemy submarines in their fishing nets.²³ Instead of regular nets, we would give our fishermen carbon fiber nets with buoys attached to them. As soon as the submarine was caught, the net and buoy would be released.

The buoy could be either an attack or locator buoy. The attack buoy would have an explosive charge attached to an automatic reeling mechanism that would draw the charge down to the submarine. A contact or influence fuse then would detonate the explosive and sink or damage the submarine. The locating buoy would have a satellite navigation receiver and a beacon that would transmit its location via secure cellular communications to our command center. The enemy submarine then could be tracked, or our forces could be directed to sink it.

Alternatively, the carbon fiber nets could be used to foul the propellers of the enemy submarines. Forced to surface, the enemy submarines would be vulnerable to detection and attack by more conventional means. Even if not attacked, they would be prevented from performing their missions. What good is a lame horse or a chariot without wheels?

Many of these specially equipped fishing vessels would be stationed along choke points and known enemy submarine operating areas. Even if the enemy were to recognize the threat, he would have to avoid these fishing vessels and thus would be denied command of the sea.

➤ *Configuration of Terrain.* Sun Tzu said: "Configuration of terrain is an aid to the army. Analyzing the enemy, taking control of victory, estimating ravines and defiles, the distant and near, is the Tao of the superior general. One who knows these and employs them in combat will certainly be victorious. One who does not know these nor employ them in combat will certainly be defeated."²⁴

As the terrain of the land affects the army, so can the terrain of the sea affect the navy. The shallow waters, the subterranean contours, and the variegated thermal layers make noisy places and silent places that we use to our advantage. As the serpent knows his own hole,²⁵ the force that best knows these configurations will be victorious.

Shallow water is ideally suited to submarine operations. These ships can hide between the layers of the underwater thermals and maneuver among the rocks and shoals, where the acoustics are clouded. From within these shadows, our submarines

can attack with stealth and surprise.

➤ *Employing Spies.* Sun Tzu said: "Unless someone has the wisdom of a Sage, he cannot use spies; unless he is benevolent and righteous, he cannot employ spies; unless he is subtle and perspicacious, he cannot perceive the substance in intelligence reports. It is subtle, subtle! There are no areas in which one does not employ spies."²⁶

Spies are in the heavens and on the earth. They can look from where the hawk flies and the where the serpent crawls and will whisper their secrets to those who can listen. Cellular telephone networks and personal computers connected to the Internet allow all of our warriors to listen for these whispers and to act upon them. But it takes wisdom and restraint for the commander not to use these same devices to place a stranglehold of arrogant control over his forces and thus limit their power.

Our enemy does not have this wisdom and uses his intelligence to control his forces instead of making them powerful. Use of his formidable air power offers an instructive example. During the enemy's 1990 war with Iraq, we observed a 72-hour delay between target identification and target attack.²⁷ Our forces could easily work within this circle of time and destroy the enemy like a typhoon.

➤ *The Orthodox with the Unorthodox.* Sun Tzu said: "In general, in battle one engages with the orthodox and gains victory through the unorthodox. Thus one who excels at sending forth the unorthodox is as inexhaustible as Heaven, as unlimited as the Yangtze and Yellow rivers."²⁸

The balance of unorthodox and orthodox is the pinnacle of excellence in the war of insurgency. Our enemy will fail because he fails to recognize the need for this balance, and instead focuses on the Mahanian orthodoxy. Inexpensive and common technology can make the unorthodox even more powerful and can give a small opponent the leverage to defeat a larger enemy.

Attacks on enemy shipping have been a traditional means for weaker naval powers to attack stronger ones. Use of unorthodox means can make these attacks even more effective. Our ships, aircraft, and cruise missiles can sow the seas with Kevlar ropes made sticky to entangle passing ships. Eventually, the rope would become a ball around the ship's propeller and the ship would be unable to move about. Even if we decided not to board or attack, these ships would not be able to deliver their cargoes.

It would be a simple matter to tap into commercial container tracking systems and then target and destroy shipping based on what products were going to whom. Another ruse would be to hide within shipping containers explosives that could be remotely triggered by codes from ships, submarines, aircraft, or satellites. Who would the enemy escorts attack and how would they find out?

Merchant shipping also can be used offensively. Shipping containers could be loaded with self-contained vertically launched cruise missile systems. These missiles could be fired at convoys or, if the captain was skillful enough to join a convoy, they could be fired from within. These shipping containers also could be loaded with surface-to-air missiles to attack enemy command-and-control or antisubmarine aircraft. Use of the containers for this purpose also will complicate the enemy's targeting. How will his aircraft be able to attack if they cannot find us?

Combining the unorthodox with the unorthodox is also necessary. Equipping submarines with surface-to-air missiles in reloadable masts will allow our forces to challenge the enemy's supposed air superiority. The enemy's command-and-control aircraft are a weakness in his battle plans. Downing them from within his battlespace using our submarines would confuse and cripple the enemy.

Strategy for the Modern Offshore Active Defense

Sun Tzu said: "Where if one fights with intensity he will survive but if he does not fight with intensity he will perish, it is 'fatal terrain.' . . . If there is no place to go, it is 'fatal terrain.' . . . On fatal terrain engage in battle."²⁹

The enemy will gravitate to the South China Sea because he seeks to interfere with and obtain control over the lucrative trade routes, fishing grounds, and oil and gas fields. Thus, he will seek to maintain a naval presence. If the enemy chooses to conduct an offensive military operation, he will move his battle groups into the South China Sea and attempt to "project power."

In anticipation of the enemy battle group deployment, we will send our irregular forces to patrol the entrances to the South China Sea (see figure 1). The fishing vessels with Kevlar nets would land many catches and few enemy submarines would penetrate unharmed.

Once the enemy has entered the South China Sea, he must be maneuvered onto fatal terrain, where we will engage in battle. The fatal terrain is the shallow water—the Kepulauan, Spratly, Paracel, and Taiwan shoals—where our regular forces can be empowered by our irregulars and our submarines, which use the configuration of terrain to advantage. The enemy eventually will go into these areas because he can do little to us if he stays by himself in the deep waters. The attack will use all our forces to deliver the fatal blow.

Within the fatal terrain our submarines and irregular forces can conceal themselves and wait patiently to strike. The fishing vessels, outfitted with cruise missiles, would meander through the shallow waters of the Paracels and Spratlys as they always have. Container ships loaded with cruise and ballistic missile containers would patrol along the shipping lanes, blending in with the other merchant traffic. Intelligence satellites would sweep the seas looking for enemy ships and sending their data to distributed land-based fusion centers, where supercomputers will correlate bits of diverse and seemingly unrelated information into a coherent tactical picture that will be broadcast instantaneously to all forces.³⁰

As soon as the enemy is discovered, his location would be passed to all forces via cellular telephones, the Internet, and our direct broadcast satellites. These communications systems also may be used by any commander or vessel captain to call in support fires from anyone who happens to be within range. In addition to direct fire by naval guns and cruise missiles, indirect fire from land-based ballistic missiles and Air Force bombers also could be called upon. Finally, the submarines would provide "undirect" fire support and their thunder would open the waters beneath the enemy's feet.

Thus, the enemy will suffer a great defeat because he does not understand the indirect approach. Master Sun has given us this strategy. The Chinese military must now recognize and use it to become powerful offshore, or ignore it and be content as a lesser power, subject to the whim and fancy of the imperialists!

Conclusion

Alfred Thayer Mahan said that maritime wars are won only by military command of the sea and that to take that command requires a battle between the fleets?³¹ But Mahan

did not have the advantage of Master Sun to guide his thoughts, and he did not realize that war at sea also can be won in many other ways. The People's Navy is ideally suited for the type of guerrilla war that our great strategists envisioned. To ensure the security of China and its neighbors, we must put these strategies to use and incorporate them into naval practice. If we prepare carefully and intensely now, we can achieve what Sun Tzu teaches as the true pinnacle of military excellence: To subjugate the enemy's forces without fighting.

AUTHOR'S NOTE: *Any citations that are postdated—after 1995—are fictional and are used only as a method for increasing realism.*

¹ There is a Chinese superstition that the dragon is afraid of the centipede because of the centipede's ability to enter the skull of the dragon through the ears or nose and, once in, eat out the brains. Arthur H. Smith, *Proverbs and Common Sayings from the Chinese* (American Presbyterian Mission Press, 1914; reprinted., New York: Paragon Book Reprint Corp. and Dover Publications, 1965), p. 316.

² The Young School of Chinese naval thought comes directly from the Soviet Young School of naval strategy, which emphasizes a defensive navy centered around the submarine. The Chinese adapted this thinking to encompass Mao Zedong's prescriptions on guerrilla warfare and glorified it during the Cultural Revolution in the late 1960's. See David G. Muller, Jr., *China as a Maritime Power* (Boulder, CO: Westview Press, 1983), pp. 50, 115-116

³ The Chinese definition of "offshore" generally was believed to include the seas from the Chinese coastline out to the first island chain, which comprises the Aleutians, the Kuriles, the Japanese archipelago the Ryukyus, Taiwan, the Philippine archipelago, and the Greater Sunda Islands. See Alexander Chieh-cheng Huang, "The Chinese Navy's Offshore Active Defense Strategy. Conceptualization and Implications." *Naval War College Review*, 47(3):18.

⁴ We assume the author is referring to the treasure fleets of the Ming dynasty in the early 15th century, when the Chinese Navy was the most advanced in the world. Their 400-foot-long treasure ships were four times the size of their Western contemporaries, and innovations such as watertight bulkheads and use of drydocks for ship construction and repair predated European technology by at least 100 years. See Louise E. Levathes, *When China Ruled the Seas: The Treasure Fleet of the Dragon Throne*. 1405-33 (New York: Simon & Schuster, 1994), pp. 77, 81.

⁵ Huang, p. 22.

⁶ Stephen L. Ryan, "The PLA Navy's Search for a Blue Water Capability," *Asian Defence Journal*, May 1994, pp. 28-32.

⁷ This is an apparent reference to the pirates that operated in the vicinity of Hong Kong in the early 1990s. In 1994, the PLA Navy began a crackdown that apparently subdued the pirates and at least silenced the complaints from Hong Kong. See "China Clippers," *The Economist*, 26 March 1994. In the wake of the Spratly War, it now appears that the pirates were not eliminated but were co-opted and used "with order and harmony" as unconventional warfare units.

⁸ *The Seven Military Classics of Ancient China*, Ralph D. Sawyer and Mei-Chun Sawyer, trans. and ed. (Boulder, CO: Westview Press, 1993), p. 162.

⁹ See A National Security Strategy of Engagement and Enlargement, The White House, February 1995.

¹⁰ This thinking parallels Alvin and Heidi Toffler's concept of demassification in modem warfare. The Tofflers contend that precision-guided weapons demassify warfare because one of these weapons is as effective as massive amounts of unguided weapons. Hei shows us that the enemy also will be demassified and, therefore, more difficult to attack. Alvin and Heidi Toffler, *War and Anti-War, Survival at the Dawn of the 21st Century* (New York: Little, Brown, 1993), pp. 72-73.

¹¹ Sawyer, p. 158.

¹² A probable reference to the Falkland Islands Conflict, where virtually every British antisubmarine weapon was expended on false contacts caused by the environment. See Harry D. Train, "An Analysis of the Falkland/Malvinas Islands Campaign," *Naval War College Review*, 41(1):40. Using decoys, the Chinese multiplied this natural false contact rate and caused the United States to waste an enormous number of munitions during the Spratly War.

¹³ Captured Chinese merchants were using a voice encryption program that turned a PC with a modem into a secure voice transceiver. The Chinese obtained the program free by downloading it from the Internet. See Scott Leibs. "The Secret Sharer," *NetGuide*, May 1995, p. 67.

¹⁴ Author may be referring to a Chinese Han-class submarine that was tracked by S-3 aircraft from the USS Kitty Hawk battle group for three days in October 1994. During the second day, Chinese F-6 aircraft were scrambled and flew toward the Kitty Hawk and turned around when they were in sight of U.S. aircraft. A U.S. attaché was later told by the Chinese that "they would take appropriate defensive reactions if there were violations of their airspace and territorial waters." Barbara , Starr, "'Han Incident' Proof of China's Naval Ambition," *Jane's Defence Weekly?* 7 January 1995, p. 5.

¹⁵ Sawyer, pp. 162, 164.

¹⁶ W. Richard Scott, *Organizations: Rational, Natural, and Open System*, 2nd ed. (Englewood Cliffs, NJ: Prentice-Hall, 1987), pp. 90-91.

¹⁷ Martin Van Creveld, *Command in War* (Cambridge: Harvard University Press, 1985), p. 188

¹⁸ Sawyer, p. 160.

¹⁹ Probably referring to the USTransCom Global Tracking Network, and the markings on the shipping containers are bar codes.

²⁰ Another apparent reference to the South China Sea pirates.

²¹ Sawyer, p. 163.

²² Colin S. Gray, *The Leverage of Sea Power: The Strategic Advantage of Navies in War*, (New York: The Free Press, 1992), p. 282

²³ Such occurrences are not unknown. Between 1987 and 1989, there were at least three incidents of U.S. submarines becoming entangled in commercial fishing nets. Scott Harris and Jane Fritsch, "Investigators Seek Cause of Sophisticated Sub's Accident," *Los Angeles Times*, 16 June 1989, p. 1-3

²⁴ Sawyer, p. 177.

²⁵ Smith, p. 3

²⁶ Sawyer, p. 185

²⁷ Michael R. Gordon and Bernard E. Trainor, *The Generals' War. The Inside Story of the Conflict in the Gulf* (New York: Little, Brown, 1995), p. 312. This long time delay made it very difficult to attack mobile targets. Norman Friedman, Desert Victory. *The War For Kuwait* (Annapolis, MD: Naval Institute Press, 1991), p. 212. "Sawyer, p. 165.

²⁸ Sawyer, p. 165

²⁹ Sawyer, pp. 178-181.

³⁰ The American information theorist, Martin C. Libicki, uses the term mesh to describe this distributed intelligence collection/data fusion system. Martin C. Libicki, *The Mesh and the Net. Speculations of Armed Conflict in a Time of Free Silicon*, McNair Paper 28 (Washington DC: National Defense University, 1994), pp. 19-28.

³¹ Alfred Thayer Mahan, *The Influence of Sea Power upon History 1660-1783* (New York: Hill and Wang, 1890, [Reprinted 1957]), p. 481.

Observations

By Rear Admiral Joseph J. Kirob,¹ U.S. Navy, Director, Office of Naval Intelligence

In 1993, Michael Hammer and James Champy described three types of businesses that underwent reorganizations: The first ones were performing well and reorganized to stay ahead. The second type foresaw trouble on the horizon and reorganized to avoid it. The third type reorganized because they were already in deep trouble and had no choice if they were to survive.² If the Spratly War is any indication, the U.S. Navy falls in the latter category, and, as Hei implies, a fresh look at U.S. naval strategy would have and could have only salutary effects.

Admiral Hei's theories are not entirely new. The idea of a David driving a Goliath from the sea with innovative technology always has been popular with lesser naval powers. As the torpedo boat fostered such thinking of the 19th century, the submarine fostered similar thought in the 20th century with the Soviets and the Chinese.³ This time, however, the Chinese were able to capitalize on the technology of the information age. This technology empowered the Chinese Young School, and the Spratly War is proof that the Mahanians were overconfident and unprepared.

But we must not leap to conclusions if we are to learn from this conflict. I take issue with those who suggest that the Spratly War proves the disutility of large naval forces.⁴ Rather, I believe that any force can improve its performance if it learns from its mistakes. Although casualties were few,⁵ miscalculations and misjudgments were many, and we will examine many of these.

To not take any action would be foolhardy and would, sadly, cause us to suffer another humiliating defeat at sea. If, however, we take Sun Tzu's words to heart, I would warn Admiral Hei and our video-conference participants in the international community: A battle is not a war. Do not underestimate the U.S. Navy. It is likely we will meet some of you again.

Commander Borik, a submarine officer, has served in both attack and ballistic missile submarines and on a carrier battle group staff during two deployments to the Mediterranean. A 1995 graduate of the Air War College, Commander Borik is executive officer of the Navy's Deep Submergence Unit in San Diego, California

AUTHOR'S NOTE: *Any citations that are postdated—after 1995—are fictional and are used only as a method for increasing realism.*

¹ Fictional character.

² M. Hammer and J. Champy, *Reengineering the Corporation. A Manifesto for Business Revolution* (New York: Harper Collins, 1993), p. 34.

³ David G. Muller, Jr., *China as a Maritime Power* (Boulder, CO: Westview Press, 1983), p. 50.

⁴ Col. John J. Wurden III, USAF (Ret.), "Airpower Was and is The Answer," *Airpower Journal*, Fall 2008, 22(3):61-69.

⁵ Total American deaths were officially 583. See Barry C. Leward, *Surprise in the South China Sea: How America Lost the Spratly War* (Annapolis, MD: U.S. Naval Institute Press, 2008), pp. 233-245.

A Brief Analysis of the Spratly War

The geostrategic situation in the South China Sea at the turn of the century was conditioned by the discovery of huge gas and oil fields in 1999. These discoveries heated up an already simmering dispute among China, Vietnam, Malaysia, and the Philippines over drilling and ownership rights. Tense negotiations among the parties yielded a compromise in which specific drilling areas were allotted to each claimant based on a complex formula that included development costs and the estimated production capacity of the field. Following intense development, by 2005 the South China Sea was providing one-third of the region's oil.

Yet hostilities were just beneath the surface. New oil and gas discoveries were being made continually, each requiring negotiations that were becoming increasingly difficult. In addition, certain Vietnamese and Philippine areas were producing much less than anticipated—apparently, the Chinese had paid certain companies to falsify production capacity information in exchange for drilling rights, and the Chinese used this (mis)information to their advantage during the negotiations.

The trouble started in April 2006, when Vietnamese guerrillas launched a series of piracy and terrorist attacks in the South China Sea, most aimed against Chinese merchant shipping and oil rigs. The Chinese responded in kind, and by the end of June, hostilities had reached the point that neutral merchant shipping was in serious danger. Japan, Malaysia, Indonesia, Singapore, Australia, and South Korea petitioned the United States to provide security for their shipping. Thus began U.S. involvement in the Spratly War. Under Operation Fast Convoy, the U.S. Navy moved the USS John C. Stennis (CVN-74) and USS Abraham Lincoln (CVN-72) carrier battle groups into the South China Sea and began escorting reflagged merchants.

The Chinese reacted with mixed signals. On one hand, the Chinese "hoped that the United States would help restore order in the South China Sea." On the other hand, they repeatedly warned that the United States was in a "dangerous situation" and that they could not be held responsible for any damages the U.S. Navy might suffer.

These damages were not long in coming. On 10 July 2006, a Chinese Luh-class

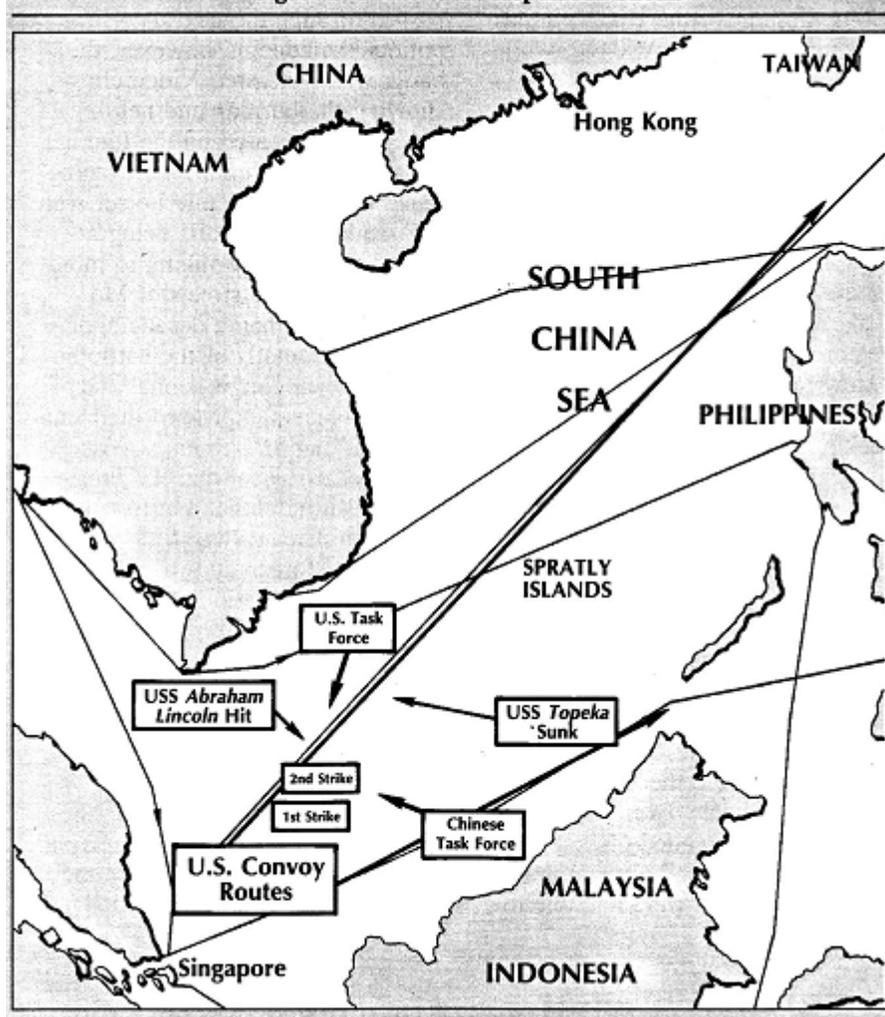
guided-missile destroyer in the company of several junks and ragtag merchants approached a convoy escorted by the USS Lake Erie (CG-70) and USS Curtis Wilbur (DDG-54). The Chinese forces demanded to board and search all vessels on the ground that some were harboring Vietnamese naval insurgents. The task group commander refused, claiming that all members of the convoy had been properly scrutinized.¹ After several similar exchanges, the Chinese destroyer and its "convoy" withdrew to just over the horizon and launched a ferocious cruise missile attack. Eight ships were hit, including the Lake Erie, which eventually had to return to Pearl Harbor for extensive repairs. The hasty U.S. counterattack was uncoordinated and ineffective. By the time the Curtis Wilbur could sort out the situation, the Chinese cruiser had left the scene and the Chinese "convoy" had dispersed and was indistinguishable from the rest of the merchant shipping.

U.S. naval leadership attempted to downplay the incident. They urged that naval tactics and policy were sound, and that the captains of the Lake Erie and Curtis Wilbur were derelict in their duties. Chinese attacks on U.S.-led convoys continued, however, sometimes coming from disguised merchants within the convoy itself. By August, with the failure of the U.N. Security Council to censure the Chinese and a steadily worsening tactical situation, the U.S. Navy was forced to act.

Operation Clean Sweep began on 16 August, establishing a no-fly zone from the Strait of Malacca to the Taiwan Straits and a no-sail zone 200 miles either side of the convoy routes (see figure 2). The plan depended heavily on the U.S. Air Force operating out of Guam, Taiwan, Japan, and the Philippines, and required the deployment of two additional carrier battle groups to the South China Sea—which forced the United States to relinquish commitments in the Mediterranean and Persian Gulf. Permission to use bases in Taiwan and the Philippines, granted on 13 August, was abruptly and nearly simultaneously withdrawn three days later, substantially overloading the bases on Guam and in Japan. That same day, the Chinese reiterated their position, maintaining that they had the right to stop and search U.S.-led convoys, and warned that continued refusals would result in grave consequences.

Operation Clean Sweep was in trouble from the beginning. With hostilities more or less open, U.S. naval commanders were extremely concerned over Chinese

Figure 2: Battle of the Kepulauan Shoals



submarines. The Chinese fanned this fear by placing thousands of decoys along the convoy routes. The ruse was so effective that U.S. forces had expended 70% of their air-launched torpedoes by the end of August. Attacks on Chinese surface ships were equally ineffective. Although U.S. forces maintained almost total air superiority throughout the war, target identification was extremely dif-

ficult because of the large numbers of decoys and high false target rates. Analysts calculated that the United States was spending \$2.6 million for each \$10,000 of enemy shipping sunk and that the entire operation was costing the United States \$1.2 billion a day. The consumption rate for precision-guided munitions was four times higher than anticipated.

There were also problems with logistics. The new Global Tracking Network was being corrupted and kept sending packages to the wrong places. This resulted in a huge logistical bottleneck because every container had to be opened and inventoried at each transshipment point.

The net effect was that replacement munitions were slow in coming, exacerbating the munitions shortage in theater and resulting in severe restrictions on rules of

engagement.

One bright spot in the campaign was the use of Special Forces, Rangers, and Marines. Launched from submarines and stealth ships, these forces approached their targets at night, undetected, using inflatable outboard-powered boats. Once on board, they would sabotage the ship or capture its crew and return the ship to U.S. hands. Unfortunately, only a handful of these special units were available, limited by the capacity and number of submarines and stealth ships.

The Battle of the Kepulauan Shoals began on 6 September with the United States escorting a 65-ship convoy out of the Malacca Strait en-route to Japan. Intelligence sources indicated that a major Chinese task force was enroute to intercept the convoy northeast of the Natuna Islands. A two-carrier battle force, led by the Abraham Lincoln, set out from west of the Spratly Islands to intercept the Chinese forces.

U.S. Air Force joint strategic targeting acquisition radar system (JS-TARS) aircraft quickly located the Chinese task force and started to provide targeting information to the U.S. joint task force (JTF). By midnight on the 7th, the JTF commander had what he believed to be a coherent tactical picture and, despite a report of four of the carrier escorts having engine trouble,² felt that his forces were ready to start the turkey shoot. By 0130, the first strike was launched from the Carl Vinson and met with U.S. Air Force jets launched from bases in Guam and Japan. Almost immediately, all JSTARS information was lost.³ The Navy and Air Force reacted by quickly launching backup aircraft, but they arrived too late to reconstitute the lost information. The U.S. strike aircraft found a dispersed and confusing tactical picture when they arrived over the Chinese task force.

Nevertheless, the JTF commander concluded that possession of air superiority would allow his forces to continue the attack with minimum risk, and the attack began as scheduled at 0210. The air crews had a difficult time identifying and tracking legitimate targets because decoys, infrared flares, and jamming produced a 40% false-contact rate. Despite these problems, the attack was a qualified success, with 2 major Chinese combatants (1 destroyer and 1 cruiser) hit and 17 smaller privateers sunk or out of action. U.S. losses were surprisingly light—only two downed aircraft.

What the Americans had attacked, however, was only a portion of the Chinese force.

By 0230 the remainder of the Chinese force was in position to attack the lead elements of the U.S. task force and, although the backup JSTARS and Navy Hawkeye aircraft had just located this force, there was nothing that could stop the counterattack. The simultaneous launch of more than 50 cruise missiles quickly overwhelmed the defenses of the USS Cushing (DD-985) and USS Shiloh (CG-67) and both ships were put out of action.⁴

The U.S. forces launched their second strike at 0300 as planned. This time, U.S. air forces had their full capabilities, and although the Chinese deception tactics blunted the attack somewhat, the results were very painful for the Chinese. Five major Chinese combatants (destroyers, frigates, and cruisers) and more than 60 privateers were either sunk or placed out of action. U.S. losses were still comparatively light at six downed aircraft, and the U.S. forces were preparing to roll up the resistance and consolidate their gains with a third air strike scheduled for 0430.

In contrast to the air strikes, the antisubmarine war was going badly. The USS Topeka (SSN-754) was four hours late in reporting,⁵ and enemy submarines were strongly suspected in the JSTARS shoot-down. The antisubmarine warfare commander was flooded with possible contacts, and prosecution of these contacts was difficult because the severe shortage of air-launched torpedoes mandated very restrictive rules of engagement. Despite more than 30 attacks, at least two Chinese submarines slipped through and were in position to attack just as the third air strike was ready for launch.

The timing for the United States proved devastating. At 0440, while recovering the second strike, the Abraham Lincoln was hit with two wake-homing torpedoes. The resultant flooding and fires caused the ship to go dead in the water and suspend aircraft recovery. The Carl Vinson did not have a ready deck as she was launching the third -4, strike, so the returning aircraft were vectored to U.S. Air Force tankers. A few minutes later, however, two of four tankers were hit with heat-seeking missiles that apparently came from a third enemy submarine. With the heart of the U.S. task force under attack, and Air Force and Navy aircraft unable to refuel, the JTF commander called off the third strike and turned the force north to deeper, presumably safer, waters.

From both a strategic and a military standpoint, the U.S. Navy clearly dominated the Battle of the Kepulauan Shoals. Even though the final attack was called off, the

Chinese forces were in no position to counterattack and were not able to interdict the U.S.-led convoy that passed through the next day. From a political standpoint, however, the battle was a disaster. Video clips showing the burning and helpless U.S. ships appeared on the Internet and were shown on all the evening newscasts. Of particular horror were U.S. sailors in life rafts being attacked by sharks, bringing to mind the scenes on the streets of Mogadishu more than a decade ago.⁶

As more details of the battle became known, congressional and civilian leaders expressed their outrage, and public opinion was so negative and vocal that the President had little choice but to call off Operation Clean Sweep and order U.S. naval forces out of the South China Sea. Operation Fast Convoy was modified to follow routes outside the South China Sea, but fewer and fewer countries participated because of the circuitous routing and because of China's offer to provide security for neutral merchants.

China was in fact, winning the Spratly War against Vietnam. By the end of October, incidents of piracy and terrorism had diminished significantly and the Vietnamese and Chinese were back at the negotiating table. On 24 October, Japan withdrew U.S. Air Force basing rights and diplomatic intelligence disclosed that Japan had been involved in a secret trilateral negotiation with China and Vietnam since 14 October. The United States terminated Operation Fast Convoy on 1 November, ending U.S. involvement in the Spratly War and the U.S. Navy's dominance in the South China Sea, at least for the time being.

¹ Recently declassified documents show that the Chinese had good reason for their actions; Vietnamese insurgents were, indeed, using U.S.-flagged convoys to conceal their movements and to resupply.

² Subsequent investigation found large tangles of kevlar rope and stainless steel wire in their screws

³ Both airborne JSTARS aircraft were shot down by missiles, presumably from Chinese submarines.

⁴ The Shiloh sustained primarily electronics damage and was able to make port under her own power. The Cushing suffered a major fire in the engineering and berthing spaces and required towing.

⁵ The Topeka was lost at sea with all hands at approximately midnight on 7 September. Survey efforts found the ship entangled in a carbon fiber net, with explosion damage near the engine room.

⁶ Analysis of the clips showed that they were taken by periscopes and that the periscope cross-hairs were depixelated, apparently in real time. There is also some evidence that the clips were graphically enhanced prior to their appearance on the Internet.