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During the past 20 years, mainland China has acquired or built a modest navy and merchant marine of regional significance. While her present internal and continental problems do not auger well for the creation of a more extensive maritime establishment, China's long coastline and extensive coastal fishing provide her with the geopolitical necessities for an increased role at sea. As labor costs rise in other countries, her abundant supply of cheap labor will make profitable the creation of a large merchant marine and export industry.

MAINLAND CHINA AS A POTENTIAL SEAPOWER

A research paper prepared

by

Lieutenant Commander Donald D. Pizinger, U.S. Navy

What is the status and trend of China's naval force and merchant and fishing fleets? Is a concentration on continental objectives likely to be a continuing major tradition in her foreign relations?¹ What is the future for China and the sea?

Answers to these questions lie in the outcome of the interaction of deeply entrenched institutions and ideology with economic and social forces for change. A general assumption of this paper is that customs, traditions, and viewpoints will change in such a way that "a Chinese solution to a Chinese problem" will emerge, acceptable to both the mother country and the rest of the world, and that absolutely inflexible institutions and beliefs—probably relatively few—will be overcome by the forces for change. Naturally, frustration and tension will be an attendant part of the process. However, the end result of this "revolution" should be the rebirth of China as a great seapower by the middle of the 21st century.²

History records an earlier phenomenal golden age of seapower during the late Sung, the Yuan, and the early Ming periods from the 12th to the 15th century. Prior to this period China had viewed a navy as a subordinate adjunct of the army. Maritime fleets under central control had been mobilized for only temporary service in special campaigns. Standing forces consisted of small, provincial, river, and coastal units. However, in 1127 a permanent national seagoing navy was established, and the central fleet remained an instrument of national policy until the 1430's.³ Pinnacles of naval achievement include two remarkable, almost unbelievable, accomplishments. First was the invasion of Japan in 1281 by Kublai Khan's army of 150,000 men transported and supplied by an armada of 4,500 ships, 3,500 of which transited many hundreds of miles from the central and southern coast of China. A typhoon on 15 August 1281 pulverized 4,000 ships in the bays of southern

Kyushu with a loss of 130,000 men. Beaches were red, and wreckage was so massive that men could walk the water. Philip II's losses of the Spanish Armada in the 16th century seem small in comparison.⁴

Second were the spectacular seven voyages from 1405 to 1431 led by the court eunuch Cheng Ho. Chinese armadas visited 36 countries from the East Indies to Arabia and Africa. The first expedition in 1405 was a mighty fleet of 62 vessels carrying 27,800 men (averaging 450 per ship!) to the countries of Southeast Asia and India.

Generations of experiments and improvements enabled the Chinese to manufacture ships that were among the most seaworthy the world had yet seen. Some of the vessels used in Cheng Ho's first voyage, for instance, had a length of 44 *chang* (c. 517 feet), and a width of 18 *chang* (c. 212 feet), built with four decks and watertight compartments. With favorable winds they could make as fast as six knots. The compass, which had been used for centuries to locate proper burial places for the dead, was now an indispensable instrument in navigation. Early during the fifteenth century when Cheng Ho made his voyages, the Chinese had the men and the skill to undertake such feats of seamanship as had never before been seen in world history.⁵

Jung-Pang Lo provides additional data on the Ming navy of the early 15th century.

At its maximum strength during the reign of Yung-lo, it consisted of a central fleet of four hundred ships stationed at Nanking, a coastal defense fleet of twenty-eight hundred ships to ward off raids by *wako* from Japan, a

maritime transport fleet of three thousand ships, and, the pride of the Ming navy, a fleet of over two hundred and fifty "treasure ships" (pao-chu'uan), each with a capacity for five hundred men.⁶

This is amazing when one recalls that several decades later Columbus' total crew for all three ships totaled 90! Furthermore, *Santa Maria* was about 117 feet long and the other two about 50 feet long!

Creation of a national navy coincided with the establishment of the capital city at Hangehow, a city exposed to attacks by sea. Physiographical conditions of southeastern China (long coastline, mild weather, and limited agricultural potential) had long favored maritime activity. Seafaring had had a long history on the southeast coast, and seamanship had improved with generations. This area had the ships, men, and skills to supply the technology and personnel for a navy. As the political, economic, and population centers shifted to this region, the thinking of the decisionmakers and intellectuals became more ocean oriented. As the hub of the country moved seaward, the leaders lost their preoccupation with internal affairs and the northwest frontiers. Urbanized industry outgrew domestic markets. Foreign commerce and industrial development eclipsed the traditional emphasis on agriculture. Indeed, a whole host of fortuitous events resulted in the orientation of the nation towards the southeast and the sea and concomitantly the development of a defensive navy which itself evolved into an instrument of advancement to the South China Sea and into the Indian Ocean.^{7*}

*Some naval observers today foresee a struggle for maritime dominance in the Indian Ocean between the Soviet Union and the United States. And yet, of the two Communist giants, it is China which can truly claim historically to be an Indian Ocean seapower.

The major lesson of this era was that China was able to develop seapower, either needed or desired, because it had a base of maritime technology and experience from which to draw and expand. Maritime experience and overseas commerce were truly the forerunners of seapower. Later reorientation of the nation inward to the north and west, preoccupation with nonmaritime interests, and anticommercialism preceded and accompanied China's decline as a seapower.

Today, China's navy is almost totally an inheritance from the 1950's. Beginning with essentially nothing in 1949, she acquired or built, with the aid of the Soviet Union, the third largest navy in Asia—a navy exceeded in strength only by those of the United States and the Soviet Union.

Much of what was built, including the major bulk of the submarine force, was the result of technical and material assistance supplied by the Soviet Union. Twenty-two submarines were assembled between 1958 and 1964 with components from the Soviet Union.⁸ The largest warship of indigenous Chinese design and construction is the *Shanghai*-type motor gunboat, 100 tons, 120 feet long (later expanded to 130 feet) which first appeared in 1959 and is a type still being built.⁹

In comparison to American, Soviet, or Japanese production it is easy to belittle Chinese accomplishments. However, they compare favorably with Polish and East German accomplishments and, in fact, are remarkable considering that China had no shipyards in 1949. Even most of her small shipbuilding installations had been destroyed in the war with Japan and the civil war. Since much of the early work must have been custom production, it is also reasonable to assume that quality may indeed be high rather than poor.

China's navy is essentially defensive with no ships, except for a few submarines, capable of operating at long range.

Chiefly characterized by patrol craft and submarines, it has almost no anti-submarine, minesweeping, or amphibious forces—in short, little offensive capability.

Primary strategy is that of mobile coastal patrol and mining. Patrolling is provided by a miscellaneous force of 300 motor gunboats and 200 motor torpedo boats.¹⁰ Considering the nation's long coastline this is not an unusually large number of small boats.¹¹ At least 22 major submarines are capable of carrying 20 torpedoes or 40 mines, and at least one class of larger surface ships has racks for 50 mines.¹² This emphasis on mining is absolutely sound since mining is normally in shallow water, and China has one of the world's broadest continental shelves.

The submarines are reported to be deployed equally between the central area opposite Taiwan and the northern area around Peking and the industrial heartland. The few major surface ships are divided among the three naval fleets (northern, central, and southern), while patrol boats, though spread all along the coast, have greatest concentration opposite Taiwan in the central area.¹³

China's Navy is not only defensive (typical of strategy taught by Soviet advisers in the 1950's) but also guerrilla-warfare oriented (with quickly shifting patrol boats and stealthy submarines)—tactics readily acceptable to the army leaders who control the navy. Perhaps, as naval-trained officers reach the highest ranks, pressure for a more blue-water navy will increase, but ideological and military requirements should still exist for a naval role in border defense. Thus any change would require additional forces and would be affected by other pressures such as scarce resources, the prevailing view of defense needs, and foreign policy goals.

New construction of ships is primarily for replacement of obsolete ships and to meet previously unfulfilled needs. New patrol boats and short-range

missile boats are replacing older boats.¹⁴ There is no significant submarine or destroyer production although those in use today will need replacement by the beginning of the 1980's, and it is reasonable to assume China could design and build its own replacements. Other nations may mistake this to be an expression of a new offensive strategy. If so, the 1980's may be a period of continued tension due to a misinterpretation of her motives.

Nonetheless, in view of competing demands and higher priorities for very limited resources, it is unreasonable to assume China's naval force will be able to significantly depart from present patterns and strategy until the last decade of this century. After 1990 one could expect her quest for prestige to induce expanded naval forces. In sum, Chinese naval power, assuming no major military aid, will probably decline relative to Japan, the United States, and the Soviet Union until the 1990's and then accelerate to a more equitable position.

China's merchant marine was in essentially the same status as its navy in 1949--nonexistent. She had neither oceangoing ships nor shipyards for construction. In the Korean war, China was dependent upon a Polish transport system of 15 ships for the supply of war material. This utter dependence upon a foreign flag left a significant impact on the minds of planners for, unlike naval development, her development of a merchant fleet has shown consistent increase in quality and size.¹⁵

From virtually nothing in 1954, Lloyd's Register of Shipping lists a merchant fleet of 402,000 gross weight tons in 1960, which in 1968 had further expanded to 239 ships and a total tonnage of 765,545 tons.¹⁶ Although the increase from 1960 to 1968 only approximates that of 1954-1960, it is actually more significant because it represents an increase due mostly to national construction as opposed to purchase and salvage in the earlier

period. China now may have reached a takeoff point for self-subsistence in shipbuilding and repair.

In contrast to the turnover of warships, the Soviet Union did not supply China with merchant ships. Truly, Soviet (and Communist bloc) technical aid and supply of shipyard equipment were fundamental to developing a Chinese industry—an industry that may soon surpass that of any Communist bloc country and is certainly remarkable in terms of growth and achievements.¹⁷

A world standard for freighter and tanker size is 10,000 deadweight tons—about the size of the common World War II ship (and the largest ship built in volume in Communist bloc countries). In 1958 China gave the world notice of its ability when it launched the 22,100-deadweight-ton Great Leap Forward at its Darien shipyard.¹⁸ Indigenous magazines report the launching of *Gao Yang*, a 10,000-ton freighter built in 1968 in 39 days; *Taching No. 27*, a 15,000-ton oil tanker built during 1969 in 32 days from keel laying to launching; and *Tientsin*, the first 10,000-ton freighter to be built at the Tientsin Hsinkang Shipyard, giving Tientsin a large shipbuilding capacity along with Darien and Shanghai.¹⁹ In addition to building ships and shipyards, China has modernized and enlarged her main seaports—Shanghai, Canton, Tientsin, Whampoa, Tsing-tao, Ching-Wan-Tao, and Tsankong—and constructed an entirely new harbor at Tsien-Kiang. This clearly means a present annual shipbuilding capacity greater than 100,000 tons and compares favorably with the government's goal in the early 1960's for a total 5-year production at that time of 54 ships of average deadweight tonnage of about 5,000 to 8,000 tons (about 70,000 tons annually).²⁰

Nonetheless, China is not today a great merchant force. Minuscule (1,287,000 deadweight tons) in comparison to the Soviet Union

(15,106,000), United States (33,372,000), Liberia (62,542,000), and Japan (34,976,000), she is now on a level of Poland, East Germany, Yugoslavia, and Australia. Her merchant marine is only 60 percent as large as that of Brazil and 40 percent that of India.²¹ Nor is her shipbuilding ability completely independent. Present development still utilizes European engineering assistance and equipment for expansion and modernization.²² What is significant is an ideological drive for independence and a momentum for production.

Increasing trade, 75 percent of which is now with non-Communist countries, will assuredly provide impetus for continued increase in Chinese shipping.²³ Even if international trade were static, a need exists for increased internal shipping and replacement of present chartered shipping and foreign transport.²⁴ In short, China is still at the bottom of the barrel of self-reliance, but the challenge is being met.

China's potential as an international supplier of cheap, labor-intensive products, such as textiles and ships, could give her future trading advantage over India, Taiwan, and Japan for such products, especially when world markets truly become available to her. And with trade go ships and seamen.

Several factors, then, point toward an expansion of her merchant fleet:

1. The internal trend is for increased shipbuilding. This is aided by an ideological motivation for self-reliance.

2. There will be an increasing demand for products which China could cheaply make. Increased trade will automatically require more ships and seamen.

3. Quite influentially within a few decades there could be increased pressure for foreign countries to purchase Chinese ships, and crew them with Chinese. John D. Hayes explains the phenomena in this way.

The sea is a hard taskmaster, and men will not go to it to make a living unless forced by economic circumstances. Americans mostly quit going to sea as merchantmen after the West was opened by the War of 1812. Today the young men of prosperous northern Europe are shunning the seafaring vocation. On the other hand, the sea has always given promise to youths whose country can offer them little. For a young Greek, life holds no sweeter promise than to be master of a ship. Moreover, the high pay and better living conditions won by the militant U.S. maritime unions have forced owners everywhere to improve the lot of their crews. As a consequence of both trends, Italians, Spaniards, and Portuguese are manning ships of such maritime countries as Norway and Holland in greater numbers, and the U.S.-owned Liberian fleet has no trouble obtaining sufficient competent crews.

As conditions throughout all Europe improve, however, there will be fewer poor countries and fewer Westerners interested in the seafaring life. Unless the Soviet Union starts exporting its mariners, the major suppliers of seamen will be China and India. Half of the crews of British merchant ships are already Indian or Pakistani, and these countries may have maritime futures of their own. Over 100 agencies in Hong Kong are reported to be supplying Chinese seamen to ships flying many flags. Some U.S.-owned Liberian-flag ships use crews from Taiwan and Okinawa.

We Westerners tend to forget that China is a foremost seafaring nation with more ships (albeit

junks), seamen, and fishermen than the rest of the world combined. One British shipping authority has sounded a warning. S.G. Sturmev, Professor of Economics at the University of Lancaster, England, predicts that Japan will soon take over maritime leadership but will lose it after the next 50 years when the present transport of oil and ore will be superseded by a mammoth sea movement of grain, rice, and other cereals. Then, he claims, other Asian importers will have the advantages of low maritime costs and wage rates and that the successor of Japan will most likely be China.²⁵

In short, after the year 2000, projections are favorable for a major Chinese merchant fleet and shipbuilding industry and a world demand for Chinese seamen. China will in the same magnitude of time, but in the late 20th century setting, be paralleling Japanese accomplishments earlier in the 20th century.²⁶ And as a result of improved technology and increased communications, her accomplishments will be compressed in time.

Fishing statistics for China are superlative—she has the world's largest fishing fleet and by far the largest yield from fish farming of any nation. Among the Communist nations she exceeds the Soviet Union in the export of fish, and although data have not been available since 1960, China is probably number one in the world's catch.²⁷ Additionally, she has dramatically increased her catch in a very few years (see figure 1).

The data in figure 1 include substantial catches from fresh water as well as sea water. For example, in 1959 China's fresh water catch was 45 percent of the total catch.²⁸ Therefore, the ocean catch nearly equals that of the United States.

In view of this reduced size of the ocean catch (of which nearly 20 percent was from fish farming) and because 90 percent of the ocean catch was estimated to be caught by small craft operated within a 20-mile strip of her coastline, ocean fisheries far from shore have a great potential. To exploit this, China will have to overcome its tradition of near-shore fishing and develop long-range fishing vessels. It is certainly the wave of the future but not the near future. Present trends do not support early expansion in this direction. She is still in the process of expanding fish farming and near-shore fisheries.

In short, China will almost certainly become a major, far-from-shore fishing nation in the 21st century. The personnel and know-how are available. However, its fruition awaits the need, the resources, and the goal. There are clearly no obvious trends toward this at present. One can imagine the excitement to be among the world's fishing nations when China does begin to use distant fisheries on a grand scale—particularly in competition with its neighbors, Japan and the Soviet Union, who are both great fishing nations.

x x x

China possesses the potential to become a great seapower in the 21st century. She has the geopolitical advantage of a long, easily accessible sea coast—unlike the Soviet Union—strengthened by a nucleus of nautical experience from coastal and inland shipping and fishing, plus a rapidly expanding industrial capability and a national sense of urgency for modernization. Her potential for manufacturing and exporting the products of cheap labor will be confronted by an increased demand for such products as labor costs rise in Japan and other developed countries. In addition to this, she has for the first time in many centuries a naval force and merchant fleet centrally controlled by a strong government.²⁹

Live weight
Million metric tons

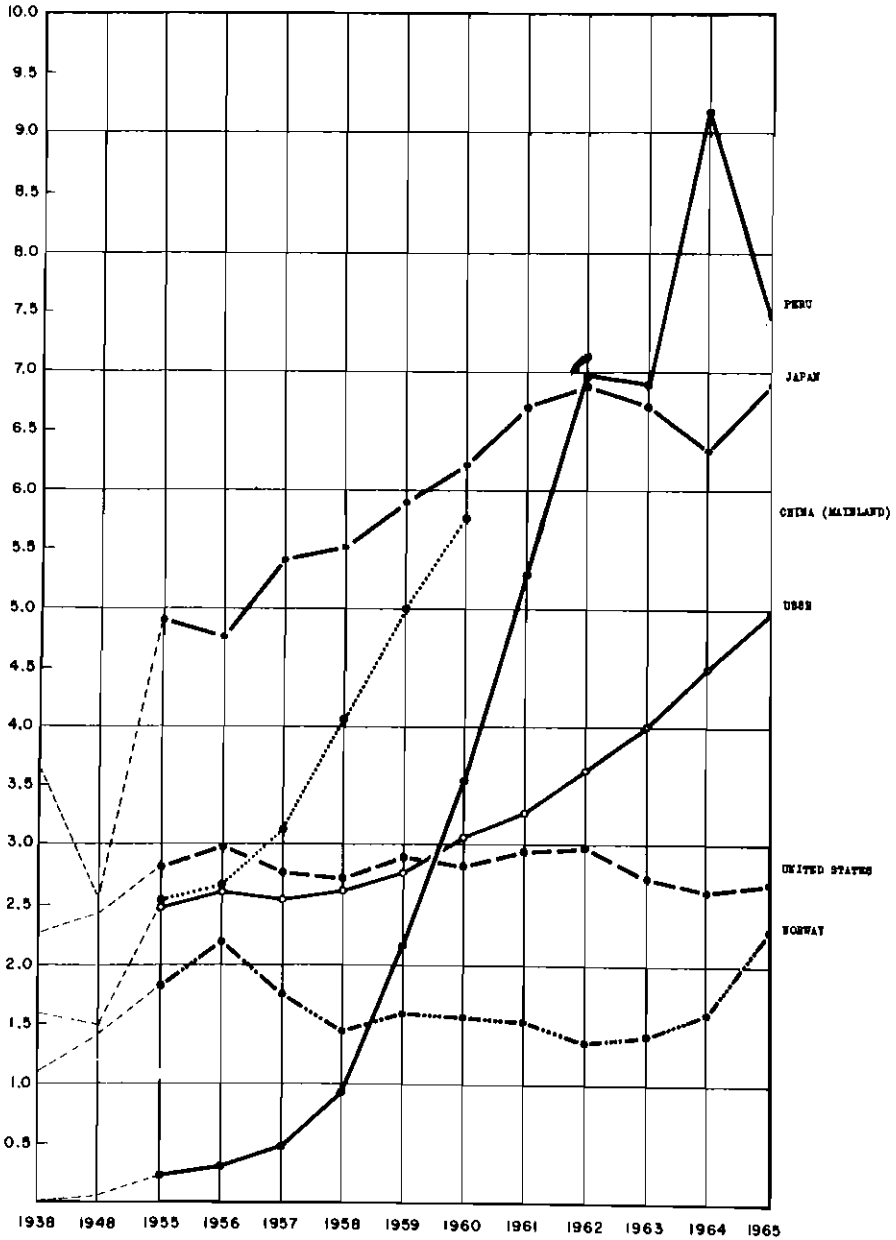


Fig. 1—Seafood Catch by Leading Countries*

*Yearbook of Fishery Statistics 1965 (Washington: Food and Agriculture Organization of the United Nations, 1966), p. xxvi.

On the minus side, she is still recovering from decades of turmoil. Her present leadership is preoccupied with internal problems—agriculture, borders, and bureaucracy. Development of a naval force has been relatively slow, and the force is predominantly defensive.

In spite of this, both the merchant marine and the shipbuilding industry have been expanding, both have reached a level of regional significance, and both are continuing to expand. Indeed, China is the only Asian nation, other than Japan, engaging in a substantial shipbuilding program.

To say that China has a “disesteem of seapower” is to say that in the last five centuries she has not had the political, social, and economic apparatus to promote or use seapower. For three centuries prior, China appreciated the importance of seapower—for defense, for offense, and as a functioning factor in national policy. Today’s political, social, and economic apparatus more closely resembles that of the 12th to the 15th century than that of the 16th to the 20th century. Only one major factor is missing—political control by an ocean-oriented southerner. However, that handicap is being overcome by

social and economic pressures inside and outside the country. These pressures are kindled with a desire for world greatness and a demand for change, for revolution, for industrialization, and for recognition.

Whatever shortages and handicaps exist for growth of Chinese seapower, all can be overcome in time within the economic and social framework of today. Between China and the sea there exists a potential for greatness.

BIOGRAPHIC SUMMARY



Lt. Comdr. Donald D. Pizinger, U.S. Navy, did his undergraduate work at the University of Kansas, holds an M.S. in oceanography from the U.S. Naval Postgraduate School and an M.S. in international affairs from The George Washington University. He has held various billets in destroyers, and his last operational assignment was Commanding Officer of the U.S.S. *Moc-tobi* (ATF 105). Lieutenant Commander Pizinger is currently assigned to the faculty of the School of Naval Command and Staff at the Naval War College.

FOOTNOTES

1. John K. Fairbank, “China’s Foreign Policy in Historical Perspective,” *Foreign Affairs*, April 1969, p. 451, lists three major traditions in China’s foreign relations—“the strategic primacy of Inner Asia,” “disesteem of seapower,” and “the doctrine of China’s superiority.” He suggests on page 461 “that nuclear power now has the symbolic and potentially strategic value that the nascent Chinese navy [19th century] once had,” and concludes on page 463 “that Chinese power is still inveterately land-based and bureaucratic, not maritime and commercial, and that we are likely to see emerging from China roughly the amount of expansion that we provoke.” His article and these statements were a stimulation to this author to investigate the present Chinese naval force and merchant and fishing trends.

2. Seapower is taken to mean an ability for localized domination of the sea and the employment of maritime power (including naval strength, shipbuilding ability, merchant marine ships and men, and fishing fleets) as an instrument of national policy.

3. Jung-Pang Lo, “The Emergence of China as a Sea Power during the Late Sung and Early Yuan Periods,” *Far Eastern Quarterly*, August 1955, p. 489, 494.

4. See George A. Ballard, *The Influence of the Sea on the Political History of Japan* (New York: Dutton, 1921), p. 19-41 for a vivid account of China’s invasion of Japan.

5. Dun J. Li, *The Ageless Chinese* (New York: Scribner, 1965), p. 486-487.

6. Lo, p. 493.

7. Lo, p. 489-503, provides a detailed analysis of factors involved in the development of China as a seapower in this era. Also see Li, p. 206-208.
8. *Jane's Fighting Ships 1968-69* (London: Sampson Low, Marston, 1968), p. 54. Construction and advancement slowed after the 1960 Soviet pullout.
9. Edward J. Cummings, "The Chinese Communist Navy," *United States Naval Institute Proceedings*, September 1964, p. 68.
10. *Jane's Fighting Ships 1968-69*, p. 54, 56-57.
11. Niu Sien-chong, "China and Sea Power," *NATO's Fifteen Nations*, June-July 1960, p. 24, reports, "China is a country with a stretch of 7,500 miles of coastline and 3,500 large and small islands scattered along the coast."
12. *Jane's Fighting Ships 1968-69*, p. 54.
13. Institute for Strategic Studies, *The Military Balance 1969-70* (London: 1969), p. 40.
14. *Jane's Fighting Ships 1968-69*, p. 56.
15. John D. Harbron, *Communist Ships and Shipping* (London: Coles, 1962), p. 249-257.
16. Listed annually in *Jane's Fighting Ships*. Two tonnage terms are commonly used for describing ships. Deadweight tons are the number of long tons (2,240 pounds each) of cargo, fuel, et cetera, a ship can carry at maximum draft. Gross tons are a volume, not a weight. Each gross ton represents 100 cubic feet of enclosed space. The two measures are approximately equal, with gross tons normally being slightly less for the same ship.
17. Harbron's *Communist Ships and Shipping* provides detailed information for comparing China with the other Communist countries.
18. Harbron, p. 250.
19. Respectively reported in *China Reconstructs*, April and August 1969, p. 7 and 2, and in *Peking Review*, 24 October 1969, p. 37. *Peking Review*, 10 October 1969, p. 35, reports the 29 September 1969 launching of a 10,000-ton-class suction dredger in Shanghai for dredging the navigation channels in coastal harbors. It was reported to be "of vast importance to the development of shipping in China."
20. Harbron, p. 252-253.
21. "Merchant Fleets of the World," *The World Almanac, 1969* (New York: Newspaper Enterprises Association, 1968), p. 101.
22. Harbron, p. 251-253.
23. "China," *Quarterly Economic Reviews*, October 1969, p. 11.
24. Harbron, p. 253-254.
25. John D. Hayea, "A Maritime Survey for 1970; Seamen, Fishermen, Prospectors: Who Will Own the Oceans?" *Naval War College Review*, December 1969, p. 39-40.
26. Harbron, p. 249, predicted in 1962 that, "If the growth of shipbuilding in the People's Republic of China accelerates as quickly as all the other heavy industries in China, she will inevitably become one of the world's largest shipbuilders and ship operators, possibly second only in the Far East to Japan." In 1968, Niu Sien-chong "China and Seapower," p. 24, warns the West that "the fledgling maritime force of Communist China is a more serious menace than her nuclear capability."
27. Loyal G. Brouchard, "Fisheries of Communist China," *An Economic Profile of Mainland China; Studies Prepared for the Joint Economic Committee, Congress of the United States* (Washington: U.S. Govt. Print. Off., 1967), p. 319-322.
28. *Ibid.*, p. 320.
29. Niu Sien-chong, p. 25.



With the growth of Red China's technical competence, her interest in the sea can also be expected to increase.

Adm. David L. McDonald, USN,
Chief of Naval Operations, to the
House Committee on Armed Services
concerning FY 66 military posture