

# 中國船譜

## SHIPS OF CHINA

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# 序 言

我國有悠久的航海及造船的歷史。考古證明，至遲在7,000年前，我國就己能製造筏和獨木舟。隨着木板船，特別是帆船的出現，我國人民的水上活動逐漸從河、湖、沿海擴展到遠洋。在最近數百年的中、西交往中，中國的造船和航海技術在給西方以重大影響的同時，從西方吸收了大量的先進技術。中西結合，逐漸形成今日中國的造船和航海體系。

中國船舶發展史大致可以分爲古代、近代和現代三個時期。古代船舶中最有代表性的是中國木帆船；近代、現代的代表性船舶則是從西方傳入的蒸汽機船和各種內燃機船。

古代船舶包括從筏、獨木舟到大型的木帆船在內的各種非機動船舶。木帆船在中國船舶發展史上佔有特別重要的地位。它發展的時間長，其質量、數量、載重量在很長的時期裏都居世界領先地位。中國木帆船設計和製造方面的許多發明，如半平衡縱帆、撐桿條的斜桁橫帆、船尾平衡舵、水密艙等，對世界造船業的發展有過深遠的影響。木帆船反映了中國船舶發展的獨創性。明朝初期鄭和下西洋及其寶船的建造，是中國航海和木帆船建造的光輝紀錄。

1840年鴉片戰爭之後，西方近代工業革命中出現的蒸汽機船傳入中國，開始了中國近代船舶發展時期。自此，木帆船逐步讓位於蒸汽機船。這個時期在中國歷時100多年。20世紀50年代末期，大量內燃機船的建造和引進，中國現代造船工業的飛速發展，使中國船舶跨進了現代發展時期。

以木帆船為代表的古代船舶都是由人力、自然力驅動的船舶；近代和現代的蒸汽機船和內燃機船均為機動船舶。因此，從動力上分類，中國船舶發展史又可分為風帆船時期和機動船舶時期。

各個時期都有其代表性的船舶。但一種新型船舶的出現絕不意味着過去的船舶就歸於消亡。恰恰相反，新船舶的出現，雖然取代了原先船舶的主導地位，但原先的船舶仍繼續存

在，只是退居次要的、輔助的地位而已。在今天中國的船舶中，我們不僅能看到最現代化的核動力船、內燃機船，而且還可以看到蒸汽機船、木帆船，在少數地區甚至還在使用獨木舟和筏。

《中國船譜》是一部中國船舶發展史的圖冊。內容包括筏、獨木舟、木帆船、蒸汽機船和現代船舶，按類編纂。全冊計有船圖1,000餘幅，可謂集中中國歷史上船型之大成。在編纂過程中，我們力求客觀地、準確地反映各種船舶的歷史風貌和我國造船技術變革的歷程，從而表現出我國人民在船舶發展史上作出的獨特貢獻及發展現代船舶進程中所取得的成就。

我國船舶類型繁多。同一類的船舶又往往因時因地而異。本船譜所輯，難免疏漏。敬請海內外專家及廣大讀者批評指正。

彭德清

1988年3月於北京

# PREFACE

China has a long nautical history. The primitive man of China, as archaeological studies revealed, was able to make rafts and dugouts 7,000 years ago at the latest. With the invention of sampan and junk, his water-borne activity gradually extended from rivers, lakes and coastal waters to remote seas and oceans. In recent centuries of communications between China and the Western World, China has influenced greatly and borrowed much from the West in respect of the arts of navigation and shipbuilding. China's navigation and shipbuilding systems of today have resulted from a combination of the traditional nautics of China and modern nautics of the West.

Roughly speaking, the history of Chinese ships can be divided into three periods, namely ancient, modern and contemporary. Ancient history is characterized by Chinese junks while modern and contemporary histories are respectively represented by steamers and internal combustion engine vessels introduced from the West.

Included in the category of ancient vessels are a great variety of non-power driven vessels, ranging from rafts, dugouts to gigantic Chinese junks. Chinese junks, developed in a long historical

process, are especially significant in the nautical history of China, and for a considerable period of time took the lead of the world in terms of number, quality and tonnage. Many of the innovations incorporated in the designing and building of Chinese junks, such as the battened lugsails, rear balance rudder and watertight compartments, had far-reaching influence over the shipbuilding in other parts of the world. The junk is a manifestation of the originality of Chinese shipbuilders. The most brilliant record for Chinese junks was the voyages made by Zheng He, a great navigator of the early Ming Dynasty (the first part of the 14th century), and the building of the immense junks, known as treasure ships, for his fleet.

The steamer, an invention during the Industrial Revolution in the West, was introduced into China after the Opium War in 1840, which marked the beginning of modern history of Chinese ships. Taking the place of junks step by step, steamers finally became the major means of water-borne transportation in China. The period, lasting over a century, ended towards the end of the 1950s, when the building and purchasing of a great number of internal combustion engine ships and the boom-



ing of China's modern shipbuilding industry brought in the period of contemporary Chinese ships.

Ancient vessels, with junks as their symbol, are vessels driven by manpower or natural force while modern and contemporary ships are power-driven ones. The history of Chinese ships can, therefore, be divided in terms of propulsion into two stages, i.e. the stage of sailing boats and the stage of power-driven ships.

Obviously, each stage has a typical vessel as its representation. Yet, this does not in any way mean that with the advent of a new historical stage, the preceding vessels will vanish altogether. The fact is, when a new type of vessel comes into being and takes the dominating position, the vessels that have given way to it still survive, only reduced to a secondary place. Even up to now, one can see a great variety of vessels engaged in transportation in China. They include not only modern ships, such as nuclear ships and internal combustion engine vessels but also steamers and junks, even rafts and dugouts — to be found only in limited areas.

*Ships of China* is a history of Chinese vessels with 1,000 odd pictures of rafts, dugouts, wooden boats, junks, steamers and contemporary ships arranged according to types. It is a comprehensive collection of the types of Chinese ships known in history. The authors, taking historical materialism and dialectical materialism as their guiding principles, have made every endeavour to give an objective and accurate description to various vessels, presenting a general view of the changes and developments of the Chinese ships. They have thus shown the readers the achievements made by the Chinese in modernizing their shipping industry as well as their unique contributions to the advancement of shipbuilding technology.

So numerous are the types of Chinese ships and so variable from time to time and from place to place are the ships of a certain type that there are bound to be oversights and omissions in this book. We sincerely hope that scholars, both Chinese and foreign, and the readership will not spare their valuable comments.

Peng Deqing

Beijing, March, 1988

# 前言

《中國船譜》是一部反映我國航海和造船歷史的圖冊。

我國人民在航海和造船方面有許多偉大創造。在歷代史籍中，在近代和現代的研究文獻和資料中，都有不少記載。爲了系統地反映我國歷史上航海和造船事業的成就，並使之在新的歷史時期中煥發出更加燦爛的光彩，中國航海學會決定組織編寫中國航海史，同時，編輯出版這本圖冊《中國船譜》。

我們編輯出版《中國船譜》的計劃，得到集美航海專科學校的積極支持。他們選派教師、科研人員、幹部組成編寫組。編寫組的人員歷盡艱辛，從浩瀚的圖書資料、文物中，從各船廠、港口、航運公司，以至邊遠地區搜集了幾千張圖片資料。現在收

入本圖冊的只是這些資料中的一部分，但已能展現出我國船舶演變歷史的概貌。他們的工作是認真嚴肅的，是卓有成效的。

在本圖冊編輯過程中，多承各航運公司、造船廠、研究機構、大專院校、海軍以及許多專家、學者的支持和幫助。我們謹向爲本書的編輯出版作出過貢獻的一切單位和個人表示感謝。

本圖冊的編輯、出版還得到集美航海專科學校校友，特別是海外的集美校友的大力支持和幫助。對此我們謹表衷心謝忱。

本圖冊收入的台灣省船舶甚少。我們希望將來能與台灣同行攜手合作填補這個空白。

中國航海學會

1988年3月

# FOREWORD

*Ships of China* is a picture album devoted to the history of navigation and shipbuilding of China.

As recorded in historical documents and revealed by archaeological studies made in modern times, the Chinese are credited with many important inventions in the field of navigation and shipbuilding. To systemize the historical achievements made by Chinese seafarers and shipbuilders, to let past history radiate greater illumination in our present new historical period, the Chinese Institute of Navigation decided to edit and publish a book *Ships of China* in addition to a book *A Nautical History of China*.

The plan to publish *Ships of China* won enthusiastic support from Jimei Navigation Institute, where an editing group composed of teachers, scientists and cadres was formed. The editors took great pains to search for materials from a vast accumulation of books and relics. They visited shipping companies, shipyards, harbours, and places of nautical importance in remote regions for pictures and first hand materials. The

1,000-odd pictures included in this book are chosen from thousands of pictures they collected. They present before the readers a framework of the historical changes of Chinese ships. The authors' earnest efforts have proven their worthiness.

To the shipping companies, shipyards, research institutions, colleges and schools, the Navy and the many experts and scholars that have rendered their assistance and support to the editing of this album, we would like to acknowledge our thanks for their contributions.

We also wish to express our sincere thanks to the alumni of Jimei Navigation Institute, particularly those overseas, for their valuable assistance and support in respect to the editing and publishing of this book.

We are very sorry to see that ships of Taiwan Province are virtually left out in the present edition, leaving a blank which, we hope, will soon be filled in with the joint efforts rendered by scholars from both sides of the Taiwan Straits.

The Chinese Institute of Navigation  
Beijing, March 1988

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**中國船譜**  
**SHIPS OF CHINA**



# 1 中國船舶的起源

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THE ORIGIN OF CHINESE SHIPS



中國是人類的發祥地之一。大約在400萬年以前，中華民族就在這富饒而遼闊的土地上生息、繁衍。

他們傍山狩獵，臨水捕魚。下水捕魚的人，難免落入深水中喪生，然而有幸者，在掙扎中偶而抓着一根漂浮的斷木，一團茅草，水裏餘生。類似情況，在洪水泛濫時，也時時都會發生。

這斷木、茅草便是最早的浮具。以後，人們可能有意識地利用能漂浮的天然物體，如木頭、竹筒、葫蘆，渡水過河。進一步發展，皮囊等浮具出現。

歷史文獻中記載的浮囊、腰舟都屬這類的漂浮工具。這種漂浮工具簡單易得，至今還常被用來作為泅渡作戰的工具。



漂木：洪水來了，可能有的人扶着被沖倒的樹木漂游，幸免於難。

**Floating trunk:** The early men were so lucky to survive the flood by getting hold of a floating trunk.



浮囊：水袋或水囊可用於漂浮渡水過河，還常用於作戰泅渡。

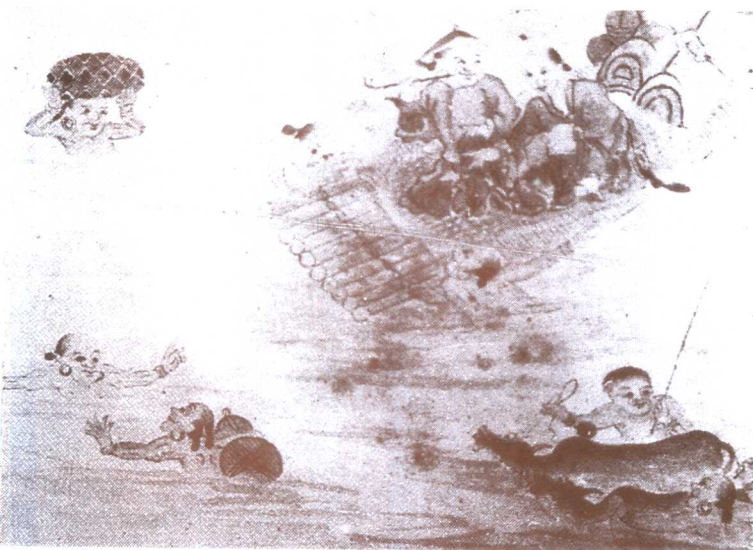
**Hide floats,** or skin-bags, used to float across a river, either on a journey or for battle.

China is one of the birthplaces of mankind. Four million years ago, man began to live in this vast and richly endowed land.

Primitive man lived in mountains or near waters. He lived by hunting and fishing. To hunt, he went up the mountain; to fish, he went down to the water. Of those who went fishing the unlucky ones were likely to fall into deep waters. Some of them might thus get drowned

while others might survive by accidentally seizing hold of some floating objects in their desperate struggle. The same might happen in floods. These floating objects might well be considered as the earliest floats man ever used. They, then, inspired man's first nautical venture across a river by purposefully using natural floating objects, such as logs, bamboo canes or gourds. And from them skin bags and the like evolved.

*Yauzhou* (waist bags) and *furang* (floating bags) recorded in history were floats early man used. As they are simple and readily available, they remain a useful means to assist soldiers in swimming across a river for battle today.



**腰舟：**以葫蘆為行具，“遇雨不濡，遇水則浮”。腰懸一組葫蘆（又稱腰舟）泗水，可騰出手來划行或捕魚，顯然比扶抱樹幹浮水又前進了一步。

**Gourds**, used as travellers's floats. "They don't get soaked in the rain, and can float on water." With Gourds tied to the waist, one can have free hands to row or fish. They prove more advantageous than a trunk which one has to hold with both arms when floating.



**水袋：**用整體剝開的羊、牛皮製成，吹滿氣，人抱之可以渡水。

**A skin-bag**, made of the whole skin of a sheep (or an ox) and inflated. One can float across a river by attaching it under the arms.

另一種用羊牛皮吹氣，紮法不同的浮具。

Another type of skin bag made of an inflated sheep or ox hide with the openings tightly tied.





但是，從嚴格的意義上講，這種浮具還不能算作船。中國的船最早產生於何時，怎麼產生，都無可考。我們只能從後來的舟、船及出土的文物，利用現代的科學技術知識進行測定和推斷。

專家們認為，中國最早的舟船應該是先民受漂浮在水面的落葉和在水面自由游動的水鳥的啟示對浮具加以改進而創造的。

1973年和1977年，在浙江省餘姚河姆渡新石器遺址出土了幾支木槳，據考證距今已有7,000年以上。以後，在浙江省多處新石器時代遺址又出土了不少木槳。這些木槳有整體窄槳片式，有整體寬槳片式和組合的寬槳片式。

有槳便有船。而且這些槳又都已相當精緻。這說明中國早在新石器時代，水上活動就已非常活躍，舟船的製造已相當完善。據此，我們可以斷言，中國的舟船最遲在7,000年前就已出現。這是個下限年代，在這之前還有一段漫長的發展過程。

此外，在中國黃河流域、長江流域和沿海一些新石器時代的遺址中，相繼出土了一批舟形陶器。這些陶器可能是藝術品，也可能是冥器或玩具。但不管是什麼，它們肯定是仿照實際生活中的舟船製造的。這不僅更雄辯地說明中國在7,000年前的新石器時代就有了舟船，而且更直觀地在我們面前展現了古代舟船的形狀和基本結構。這種陶舟發現的地區比較多，說明這些舟船在那時就已廣泛地使用。



#### 浙江省河姆渡木槳：

出土木槳有幾種類型：

整體窄槳片式：槳面寬度10~14厘米，與槳柄寬度差不多。

整體寬槳片式：槳面寬19厘米，槳片長於槳柄，長度87—97厘米。

組合式寬槳片式：槳面寬約26厘米。槳片與槳柄分別由兩塊木料製成，用繩索捆繫在一起。這種槳迎水面大，能加速航行。

#### Types of the Excavated Oars from Hemu Ferry, Zhejiang Province:

One-piece narrow-bladed oars: blade width 10-14 cm, almost the same as that of the loom.

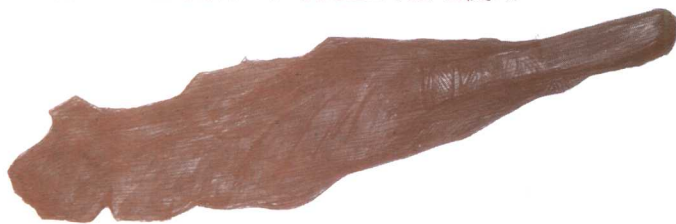
Broad-bladed oars: made of a single log, blade width 19cm, length 87-97 cm, greater than that of the loom.

Broad-bladed oars with a jointed loom: blade width 26cm. The blade and the loom were made separately and jointed together with a rope. The oars have broad surfaces and can make faster boats.



浙江省河姆渡木槳出土照片

An oar being unearthed in Hemu Ferry, Zhejiang Province.



浙江河姆渡木槳：柄端和槳葉相連處刻有弦紋和斜紋圖案。

A wooden oar unearthed in Hemu Ferry, Zhejiang Province. At the joint of the loom and the blade, there are carved decorative patterns.



◀ 浙江省吳興錢山漾出土古木槳

An ancient wooden oar unearthed in Qianshanyang of Wuxing, Zhejiang province.



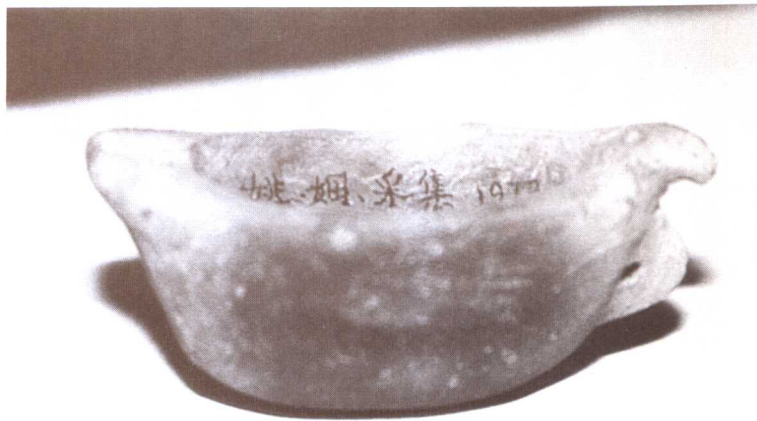
In the strict sense, floats are not vessels. As to when and how China's first vessels were built, history contains no records. The answers to the questions are so far sought for by way of imagination guided by evidence, such as vessels both recorded and existing, and relics unearthed and, above all, by scientific knowledge.

Experts generally believe that China's first vessels were improvements made upon floats. They were inspired by the drifting movement of fallen leaves and the swimming of natatorial birds.

In 1973 and 1977, several wooden oars were found in Hemu Ferry, Yuyao, Zhejiang province, a study of which reveals that they were relics dating back from the Neolithic Age 7,000 years ago. Other Neolithic oars were discovered later in places of Zhejiang. Some of them, either narrow-bladed or broad-bladed, are made of a single trunk; others are broad-bladed with a loom joined to the blade.

The oars are evidence of the existence of early boats. What's more, the skill embodied in them shows that water-borne activity in China was rather brisk and boats were built to a considerable degree of perfection as early as the Neolithic Age. Based on this, we can safely say that the first boats of China were built, at the latest, 7,000 years ago and prior to the time there must have been a long process of evolution.

In addition, a number of boat-shaped earthenware pots have been discovered in Neolithic sites in the Valleys of the Huanghe and Changjiang Rivers and some coastal areas. These boat-shaped pots might have been artistic works, toys or funerary objects. Whatever they be, they were surely imitations of real boats of that time. These archaeological finds not only further prove the existence of boats in China in the Neolithic Age, 7,000 years ago, but also present before us their shapes and basic structures. Furthermore, the fact that the earthenware pots were found in a considerable number of places shows that boats were already used in many parts of China as early as the Neolithic Age.



浙江省河姆渡船形陶器：河姆渡新石器時代遺址出土的船形陶器，長7.7厘米，高3厘米，寬2.8厘米，兩頭尖，底部略圓。考古工作者認為：這可能是仿獨木舟的陶製品，距今有7,000多年。

**An earthenware boat** unearthed in Hemu Ferry, Zhejiang Province. The Neolithic earthenware boat, 7.7 cm long, 3 cm high, 2.8 cm wide, with two pointed ends and a slightly rounded bottom, is believed to have been an imitation of a dugout 7,000 years ago.



陝西寶雞船形陶壺：底呈弧形，兩端上翹尖而突，腹部寬而外鼓。這說明這時的獨木舟造型已從結構上考慮到提高載重量和提高航行速度的問題。

**A dugout-shaped earthenware pot of Baoji, Shanxi.** It is a Neolithic find. It has an arced bottom, two pointed ends and a spherical body. This shows that consideration had been given to increasing capacity and speed of a dugout by that time.



◀ 陝西省寶雞船形陶壺：腹部側面繪有漁網形花紋，是模仿當時漁獵用獨木舟的陶製品。

A boat-shaped earthenware pot discovered in Baoji, Shanxi Province. The pot body is painted with fishing-net pattern on both sides. It was an imitation of early dugouts used for fishing.

湖北省紅花套陶舟：1973年湖北省紅花套新石器時代遺址出土的陶舟，方頭方尾，兩端略上翹，底呈弧形，可能是仿照當時獨木舟的陶製品，距今5,775±120年。

An earthenware dugout unearthed in Honghuatao, Hubei Province. The Honghuatao Neolithic earthenware dugout was unearthed in 1973. The dugout, with square bow and stern, slightly up-swung, and an arced bottom, is supposed to have been made after the dugout 5,775 ±120 years ago.



大連郭家村出土的舟形陶器：器表粗糙，口為長橢圓形，平底，口徑8×17.8厘米，底徑4.4×14.4厘米，距今4,180±90年。

The earthenware dugout, excavated in the Village of Guojia, Dalian, rough on surface, with an 8 × 17.8 cm opening and a 4.4 × 14.4 cm elliptical bottom, was made 4,180±90 years ago.



丹東後窪舟形陶器：長橢圓形，兩端圓弧，腹部稍寬，圓底，橫剖面呈半圓形，長13厘米，寬5.5~6.6厘米，高2.2厘米，壁厚0.4厘米，距今6,000年以上。

An earthenware dugout of Dandong, Liaoning. The dugout, with a broad body, a rounded bottom and arched ends, is oblong-shaped. Its cross section is a semi-circle. Its length is 13 cm, breadth 5.5-6.6 cm, height 2.2 cm, thickness 0.4 cm. It is a relic 6,000 years ago.