

Paul Johnstone. *The Seacraft of Prehistory* Ed. Sean McGrail, 1980, Harvard University Press, Cambridge. Pp. 260, illust., index, notes, bibliography. \$25.00.

Sean McGrail of the National Maritime Museum at Greenwich, England, has prepared this book from the 150,000 words amassed by the late Paul Johnstone, a highly esteemed expert on early ships. The scope of the book, which is immense, is a worthy memorial to Johnstone's lifetime of study. Part I, "General Survey of Early Types of Water Transport," and Part II, "Europe," are the best things on the subject ever written, and even compare favourably with Homell's classic *Water Transport*. Part III, entitled "Outside Europe," which is far more sketchy. Chapter 15, for instance, on the Pacific, takes up no more than nineteen pages. Nevertheless, the 156 page "General Survey" is essential background reading for any student of Pacific watercraft.

The relationship between the dugout, the planked boat and the bark, or skin-covered craft, is complex and remains largely obscure. The dugout, in any but the most elementary form, became possible only with the advent of the heavy stone woodworking axe/adzes of the Neolithic. The earliest so far known comes from the Netherlands and is carbon dated around 6300 B.C. Johnstone considers that the main line of development of planked craft was the expanding outwards of the sides of soft wood dugouts by the application of heat as a preliminary to the sewing on of strakes and later, rows of planks. The alternative hypothesis, the substitution of sewn planks for the sewn skin or bark, that could readily be worked throughout the preceding 15,000 years of the Mesolithic, he dis-

counts. Johnstone's argument is that skin boats are built on frames, whereas early planked boats have no frames at all, or have subsequently inserted ones. This is probable, but not conclusive. The adoption of rigid adzed planks rendered the vessel's skin virtually self-supporting and reduced to a minimum the need for ribs and frames. The sewn seams of the skin/bark boat were, in fact, retained on most planked craft until metal tools rendered symmetrical dowel holes possible. In India, Ceylon, East Africa, Kiribati and the Tuamotus, sewn construction lasted into the present century. The Hortspring boat from Denmark, 300 B.C., had the bifid stem characteristic of Scandanavian skin-covered craft, yet was built of fine wooden planks sewn together (page 115)--a clear example of direct transition from skin to sewn-plank boat. Johnstone clearly saw this, for he quotes with approval Marstrander's sensible conclusion that *both* skin boats and dugouts contributed to later craft (page 116).

The relevance of this question to Pacific canoes lies in the persistence of two distinct traditions in our ocean--the dugout, as in Hawaii, New Zealand and the Cook Islands, and the sewn-plank canoe found in Kiribati and the Tuamotus. The latter could well be ultimately descended from craft allied to the skin "umiaks" of Euro-Asia and the bark canoes of America.

The characteristic Austronesian stabilising devices, outriggers and double-hulls, are generally believed to have evolved in insular or mainland Southeast Asia (pages 214-15). The author, like Hornell himself, fails to note the most likely hypothesis to account for their introduction--the stabilizing of dugout canoes when putting out into the open sea under sail. The dates for early long distance Pacific voyaging (1500 B.C. to the Marianas as the first great leap) are well after the most conservative dates for the introduction of sail (the 3100 B.C. Egyptian vase painting cited by Johnstone on page 760). In fact, linguistic evidence of Austronesian words for sail and mast would date Austronesian sail power at least a millenium earlier (A. Pawley, personal communication 1976).

The Pacific craft we have been considering have been canoes of one sort or another. But, as in other tropical oceans, rafts and reed bundle semi-rafts were also important. Johnstone describes the reed bundle craft of ancient Egypt and Mesopotamia and their surviving analogues in Africa, Peru, Easter Island, Southern New Zealand, the Chatham Islands and Tasmania. He refers comprehensively, if rather cursorily, to the sailing rafts of Southeast Asia, India, South America and Polynesia. The striking similarity in concept in steering sailing rafts by leeboards in Southeast Asia and Mexico-Peru (but not Polynesia) raises the thorny question of pre-Columbian trans-Pacific contacts between Asia and South America.

Johnstone gives a very fair summary of the present position on pages 230-31 and sensibly opts for “non proven.”

In reviewing this excellent book, I have purposefully refrained from discussing the interesting sections on Europe. I have concentrated instead on those parts most relevant to Pacific origins. Uneven coverage is inevitable over this book's enormous field. Oceania and the greater part of the world has suffered. Nevertheless, this is a readable and well presented work of reference that no student of maritime prehistory can afford to be without.

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