ANTH318
Nautical Archaeology of the Americas

Class 7

Introduction

The earliest inhabitants of America were hunters who migrated from the Asian mainland across the Bering Straits ‘land bridge,’ presumably in several waves, from around 12,000 BC onwards.

They adapted quickly to the environment and the population had grown to an estimated 40 million by 1492, the year Christopher Columbus arrived in America.

By 1500 there were many tribal groups that spoke perhaps 1,000 different languages. In common they had their isolation from Asia, Europe, and Africa, and no iron or steel technology.

The Europeans incorrectly called all these groups "Indians." "Indian" is a designation that originated in the geographical misconception of Christopher Columbus, who imagined himself in the East Indies when he arrived in the Caribbean.

Although they had not developed the use of the wheel for transportation, the indigenous American populations sailed and paddled across rivers, lakes, and seas on craft made from the materials available in each environment they populated.

The environment dictated needs and provided natural resources for tools and building materials:

North America
  Kayaks, umiaks, Pacific Northwest dugouts, bull-boats
  birchbark canoes, dugout canoes, sewn-plank canoes, reed boats, rafts.
Caribbean Islands
Dugout canoes, rafts.

Central America
Dugout canoes, rafts.

South America
Dugout canoes, rafts, reed boats, skin floats, sewn-plank and sewn-bark canoes.

North American Craft
Arctic North
In the frozen Arctic North Eskimos occupied the land from the Bering Strait to Greenland before the arrival of the first Europeans. Their maritime culture has its roots in Alaska, where evidence of whaling from around 2,000 BC has been found.

Eskimos have developed many regional styles of boats. However, they all have built two main types of craft: kayaks and umiaks.

Kayaks and umiaks are skin boats built over a pre-erected wooden skeleton, generally paddled, and known to the Eskimos for at least 1500 years.

Kayaks
Kayaks are built over a lashed structure, usually of driftwood that is later fitted with a skin cover (from seal or walrus) oiled with animal fat. A small decked canoe, the kayak was used for hunting and fishing. The gunwale provides most of its strength, all of the remaining structure – of light frames kept in place by light longitudinal battens – supports the skin cover. Covered with skin above and below, the kayak is fully watertight after his occupant laces his own clothing to the rim of the manhole through which he sits. Should it capsize, the Eskimo can right the boat with a stroke of his paddle.

Umiaks
The umiak is a larger type of craft, and although it is also built over a pre-erected, lashed, skeleton, it is a heavier boat. Umiaks have large keelson and large chine timbers. Their shape is kept by strong frames made of three sections (bottom and sides). The skin cover is completed as a single unit before being fitted on the skeleton, and only then attached to the gunwales, stem, and stern. Umiaks were used for the transportation of people and goods over large distances and are occasionally referred as being used to hunt whales and walruses. Sails of animal skins or bladders have been reported by participants of the Frobisher expeditions in the 16th century.
Pacific Northwest

In the Pacific Northwest many Indian tribes were dedicated to fishing and capturing small whales, seals, and sea lions.

Dugouts

Evolving from the Eskimo culture (from which they seem to have separated around 1000 BC) these Indians built dugouts as small as one person, and as large as 18 m in length. Once finished, upper strakes were frequently added to these large dugouts. These strakes were pegged and lashed to the bow and stern, in order to throw aside the seas. In 1806 Louis and Clark divided this craft into two main groups: the smaller ‘river canoes’ and the larger ‘ocean canoes.’ Today, specialists have divided these canoes into as many as five or six different types, suggesting evolution and specialization over time.

Northern forests

Skin boats

Towards the south, American Indians also made skin boats, even in regions where bark canoes were more common. Here however, instead of fitting a skin over a pre-erected structure, it was the skin that kept the frames together, as in the bark craft.

Birchbark canoes

In the forests, where birch trees could be found, bark was used to make canoes. The French explorer Jacques Cartier reported birchbark canoes as early as 1534, and Samuel de Champlain measured one in 1603, finding it 6 m long and 1 m wide. The high quality of these boats was praised by all Europeans: they were extremely fast even in the sea, very stable even in the rapids, and so light that they could be paddled across shallows, and carried easily around waterfalls and dangerous rapids.

Birchbark canoes were built wherever birch trees grew, from coast to coast, from Canada and Alaska to the northern states of the US. The bark of elm, hickory, chestnut, cottonwood, and spruce was sometimes used as well. Although varying from tribe to tribe, bark canoes are all very similar and did not change much through time. Their original design is believed to be pre-Columbian. The most distinctive characteristic of birchbark canoes is that they were built by forcing a framing system into a previously assembled tree-bark cover.

Great Plains

Bull-boats

In the Great Plains the natives stretched one or two buffalo hides over a basket like structure and made coracles which were called ‘bull-boats.’ These boats were either towed by a swimmer, paddled, or propelled with poles.
From the Sea to the Mountain Ranges

**Dugouts**

Large trees supplied timber for the building of dugouts mainly in two regions of North America (as well as all over the South American continent). The region to the east extended from the Great Lakes all the way south to Florida, and then west along the Gulf of Mexico, encompassing all the major river systems that discharge into this gulf. To the west, it ran from Alaska to northern California, along the strip that stretches from the sea to the mountain ranges.

The oldest dugout known in the US was found in Florida and dated to about 3000 BC. Dugouts were sometimes carved with the help of fire, as it was found to be the case of the one found in Savannah Lake, in Ohio, dating to 1500 BC.

The swiftness and size of these boats has astonished many Europeans from the late 15th century on. Large decorated canoes with 25 paddlers on each side and 25 to 30 warriors in between pursued Hernando de Soto’s 1539-43 expedition down the Mississippi “as fast as a horse running” while their paddlers sang songs to keep the propelling rhythm.

**Southern California**

**Sewn-plank canoes**

In Southern California sewn-plank canoes were reported in the early 20th century.

Having no large trees around, the natives built their craft from a central plank, to which boards were lashed and asphalted. These canoes were propelled with double-bladed paddles and could be used in open-sea crossings between islands. Archaeological evidence suggests that these canoes may have been in use by 500 AD.

**Reed boats**

In California reed boats were also built, generally from 3 bundles of tule (a local bulrush). These boats were used in bays and off the coast for fishing and hunting.

Rafts were used all over North America, built from logs or reeds. They were mainly used to cross streams.

**Caribbean Islands**

Although it is obvious that the settlement of the Caribbean Islands implied the use of sea-going craft, not much is known about it.

**Dugouts**

Since the arrival of the Europeans dugouts have been described and praised for their sea-going qualities. A 19 m long dugout carrying 150 people was reported by Columbus in 1492. Comparing these dugouts with the Mediterranean *fustas* he claimed that the canoes were much faster. Except for 2 paddles, there is no archaeological evidence of this type of craft. There is evidence that these dugouts
were built by burning and scraping. However, cedar and ceiba canoes may have been just carved with stone tools.

Central America
The Mayan civilization flourished in the Yucatan peninsula in the 1st millennium AD. The Aztec civilization flourished in today’s Mexico in the first half of the 2nd millennium AD.

Dugouts
The Mayas used large dugout canoes for transport. We have evidence of this practice in models, engravings, and murals. Ferdinand Columbus mentioned a large dugout in Honduras, “long as a galley” and 2.5 m wide, coming from the West to trade. Evidence shows multiple types of craft: with high bow and sterns, and with platforms at the ends. The Aztecs also used dugout canoes for fishing, hunting, transport, war, and ritual ceremonies. We have two types of evidence of this craft: drawings can be found in the Codex Mendoza, and one canoe was actually found in Mexico City in 1959.

Rafts
Both the Maya and the Aztecs used rafts of several kinds.

South America

Dugouts
Dugouts were extensively used in the South American continent, both on the Atlantic and Pacific coasts. In the Pacific coast there is evidence for the use of sails.

Rafts
Rafts of several kinds are also known to have been used, such as log rafts with a longer central log acting as a bow, large balsa log sailing rafts, gourd rafts (in N. Peru), and rush rafts.

Reed boats
In the large interior lands and the coasts of Peru and northern Chile reed craft was used extensively. The simplest form is represented in a 2000-year-old model and consists of 2 bundles of totora reed tightly bound together. Smaller versions of the Titicaca reed boats have been used to fish in coastal waters. There are many variations of this Lake Titicaca boat, but most are double-ended with pointed bow and stern. Reed boats must be replaced regularly, since the wet reed has poor buoyancy.

Floats
In arid coastal Peru and northern Chile floats were made from inflated animal hides (marine mammals).
**Sewn-plank canoes**

Sewn-plank canoes and sewn-bark canoes were used in Southern Chile when the Europeans arrived.