

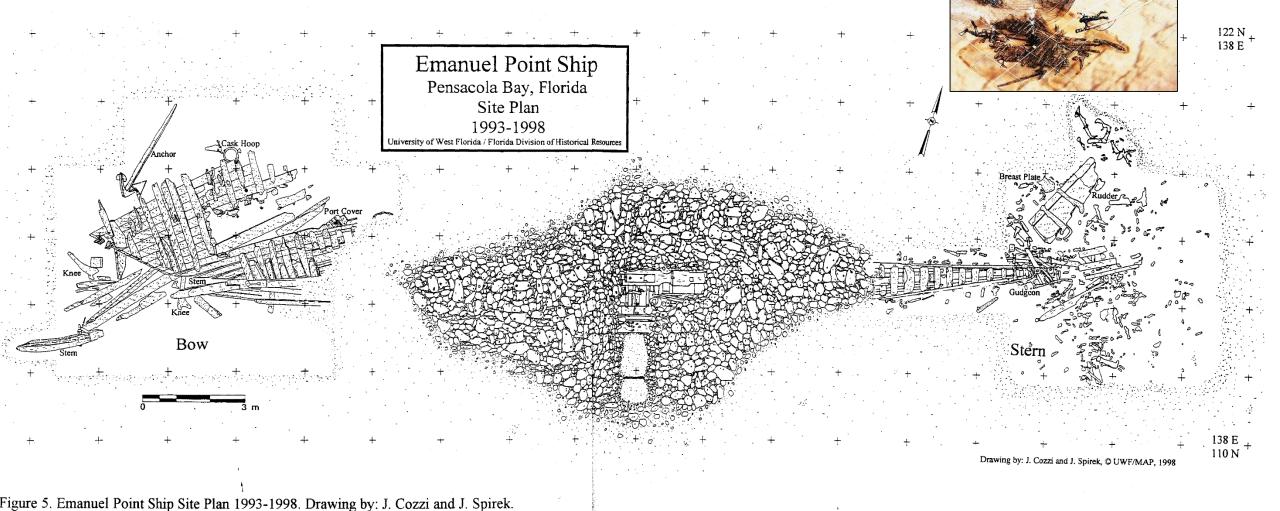


Tristán de Luna's ships, 1559



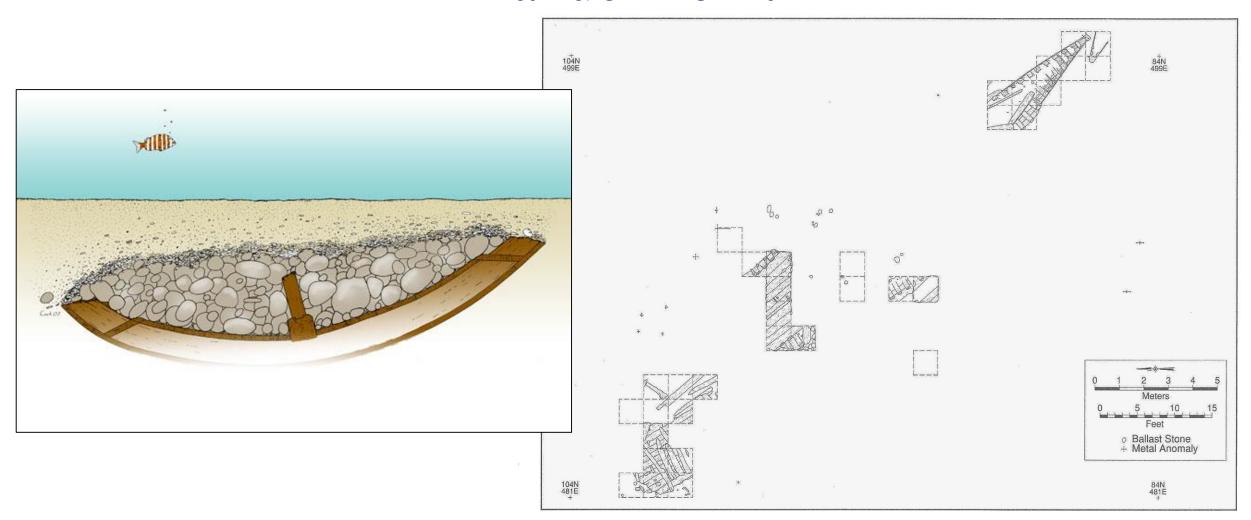


Emanuel Point 1



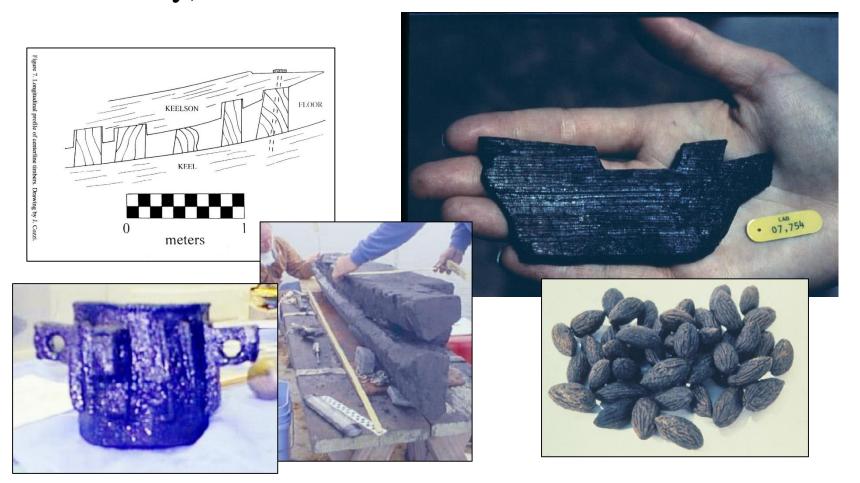


Emanuel Point 2





This is an ongoing project, carried out by excellent archaeologists (West Florida University), but underfunded.



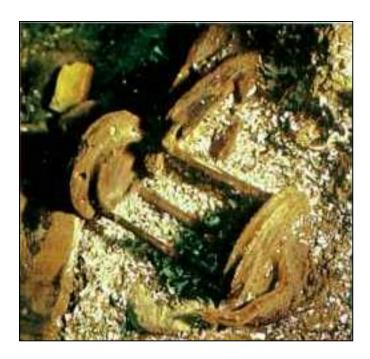


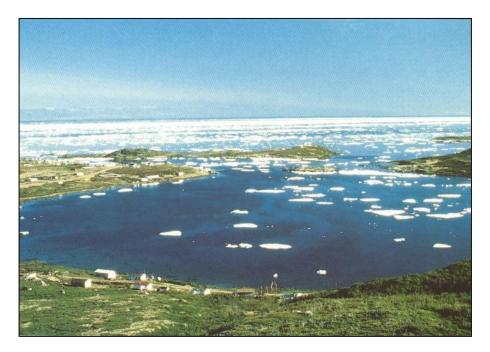
Emanuel Point 1

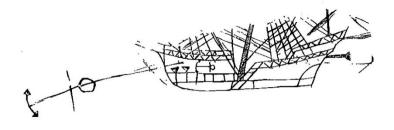


The San Juan, 1565









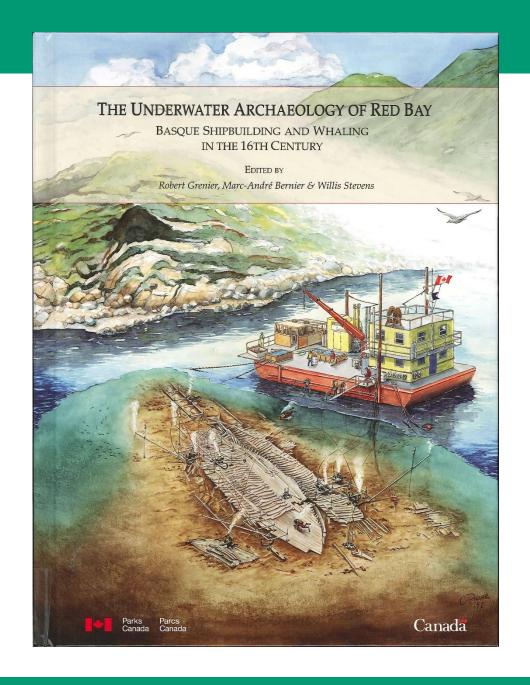


Extensive hull remains.



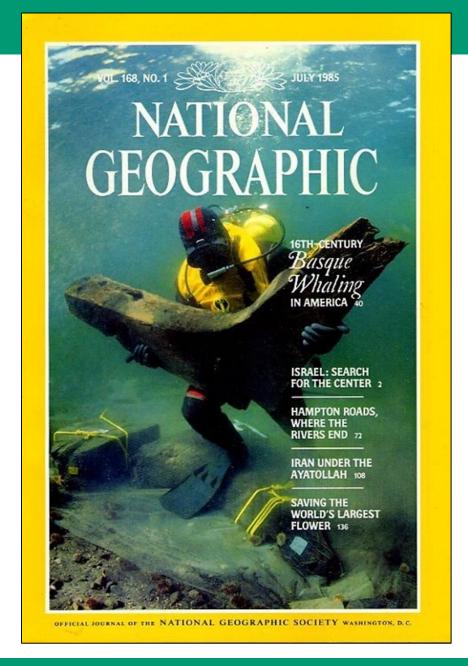


San Juan is probably the best published shipwreck ever excavated.





The government decision to properly excavate *San Juan to the higher possible standards* resulted in a featured article at Naitional Geographical. The Canadian ministry of economy estimated that publication (with a cover) at an equivalent to many millions of Canadian dollars in institutional publicity.



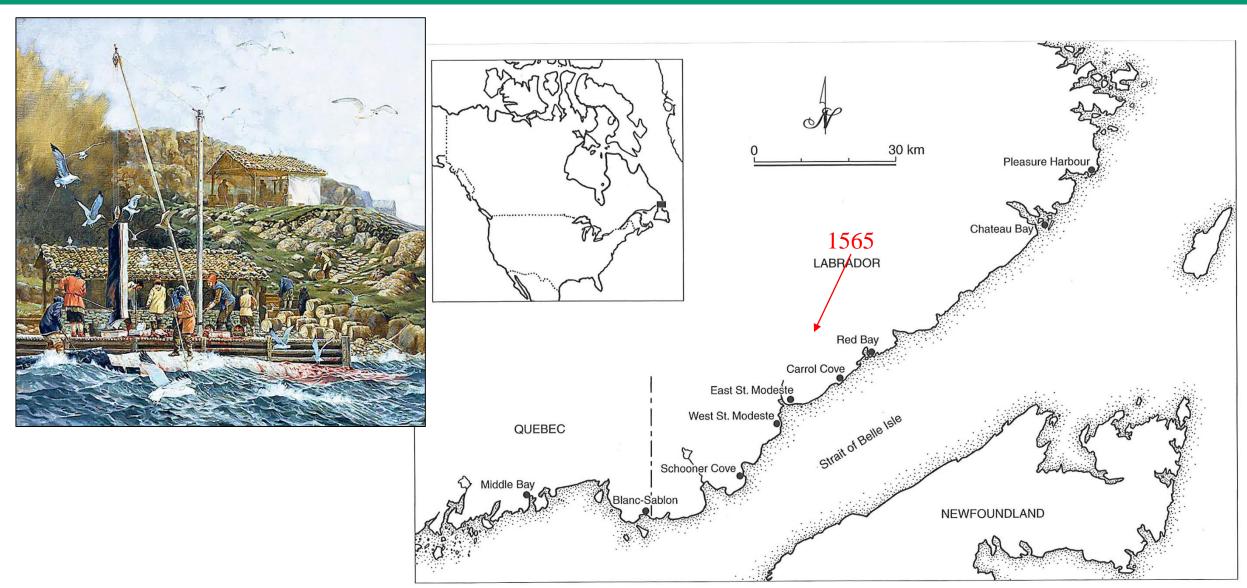


San Juan was a Basque whaler from the mid-16th century.

The excavation was carried out with immense respect for the Spanish government and in collaboration with Basque cultural organizations.



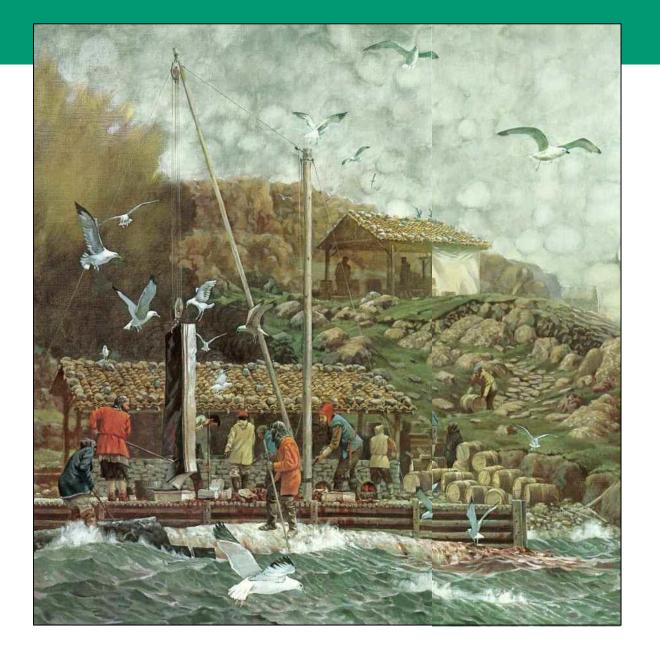






The excavation was a school for maritime and underwater archaeologists, and the results yielded a tremendous amount of information.

On the investors, on the shipbuilders, on the sailors, on their families, on their lives in the 16th century Basque country...





...on the shipbuilding techniques, on the sailing abilities, on life aboard, on the voyages, on the orientation strategies, on the notion of territory...

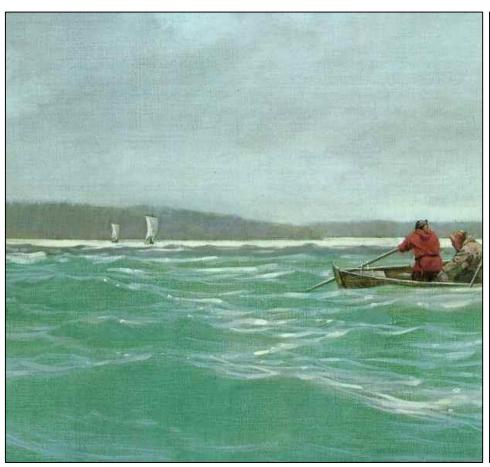








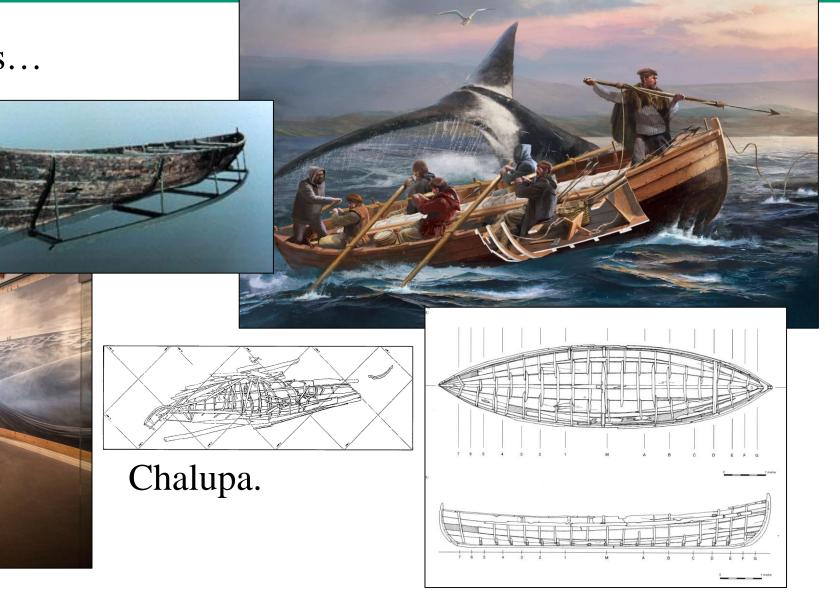
...on whaling techniques...





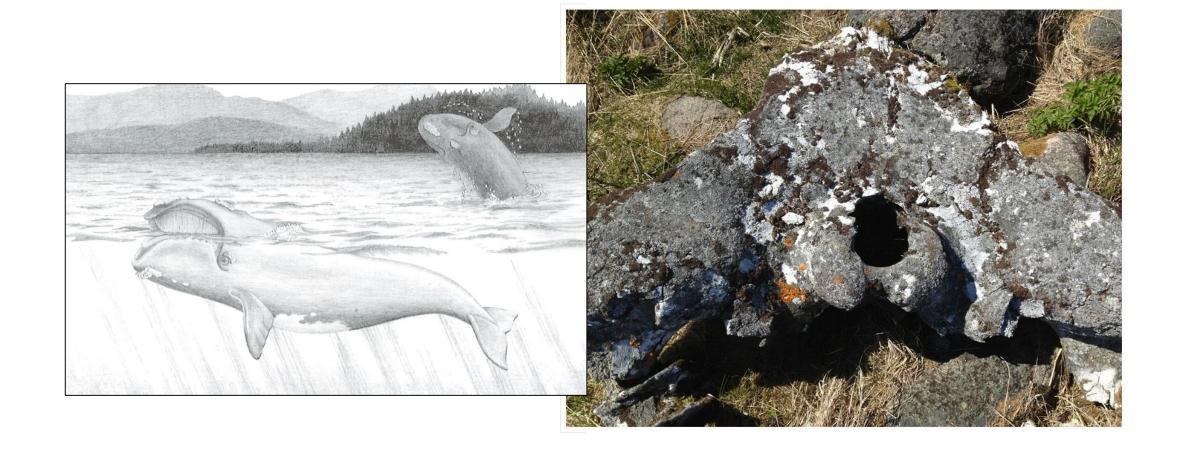


...on whaling techniques...





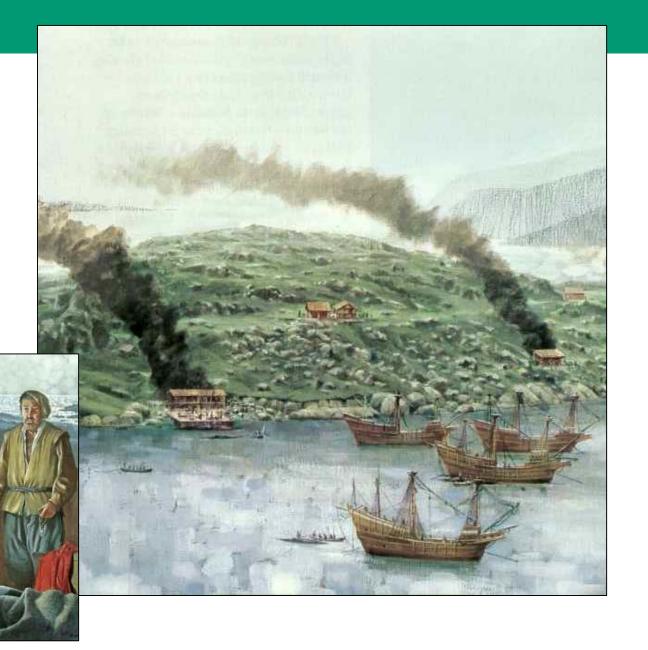
...on the size and health of the whale population...



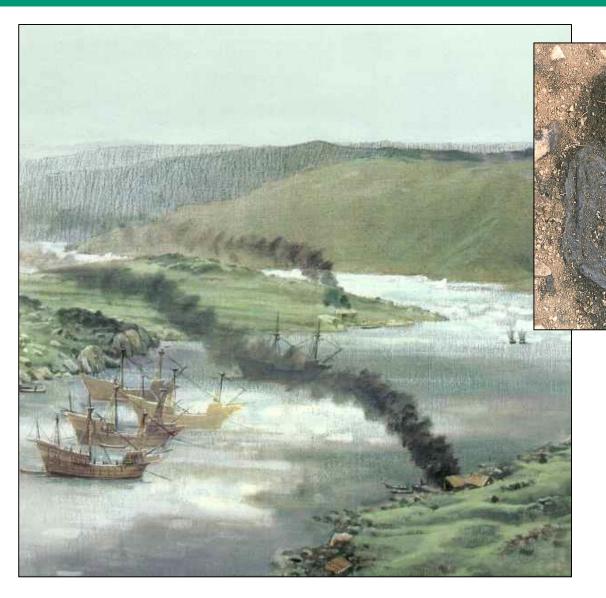


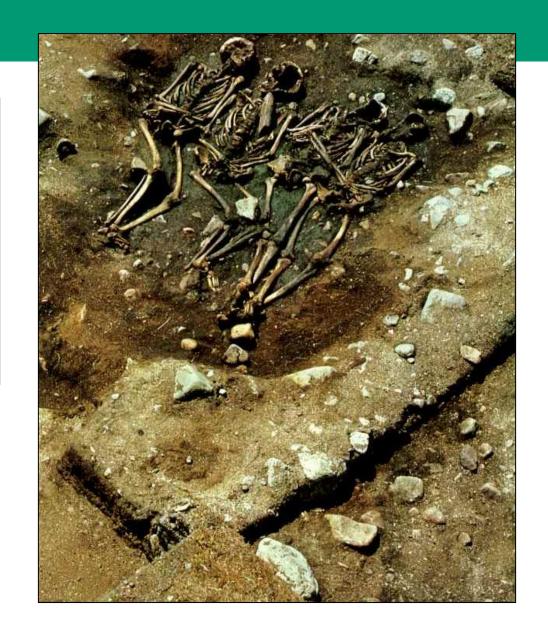


...on life and death in America, in a whaling station, in the 16th century.



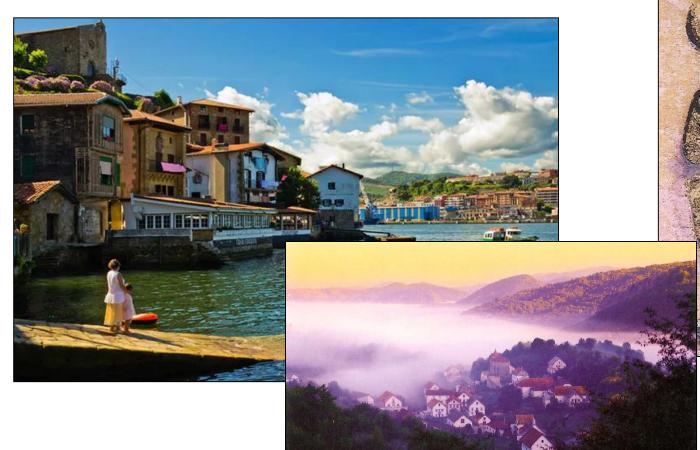


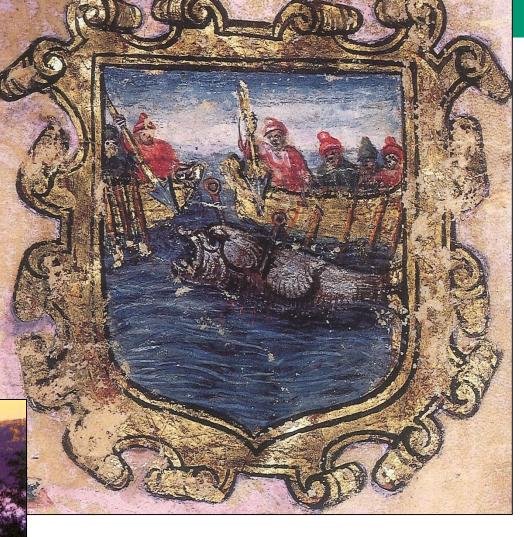






European whaling in the 16th century and its economic importance.





Between the mountains and the sea.



On the processing of the whales and the extraction of oil and other products.













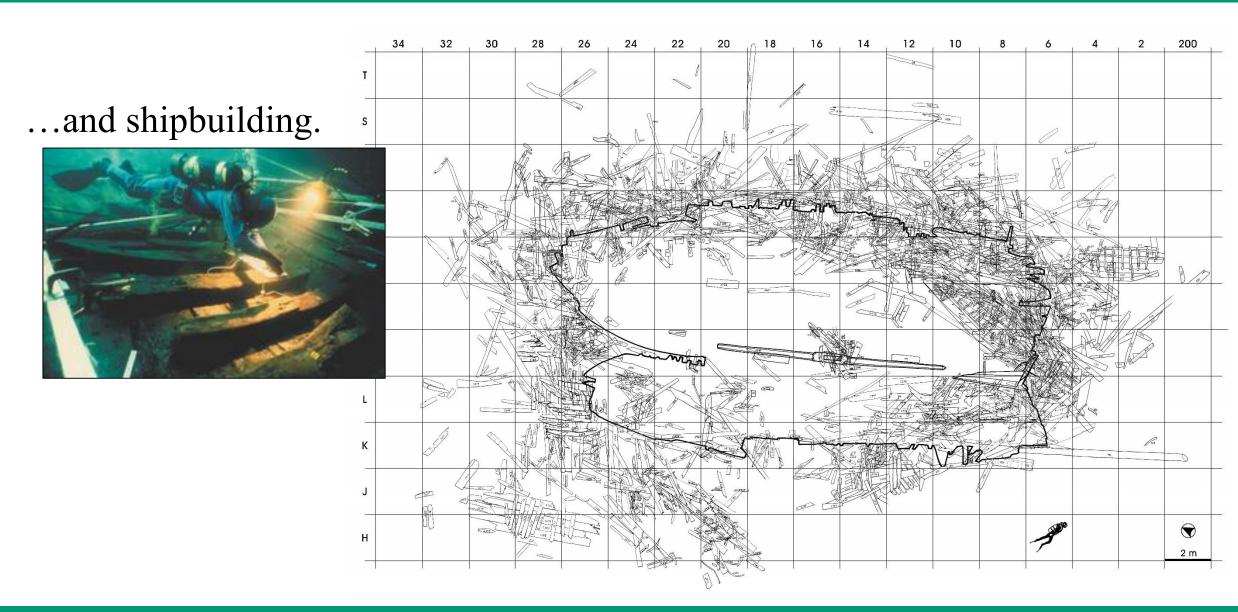




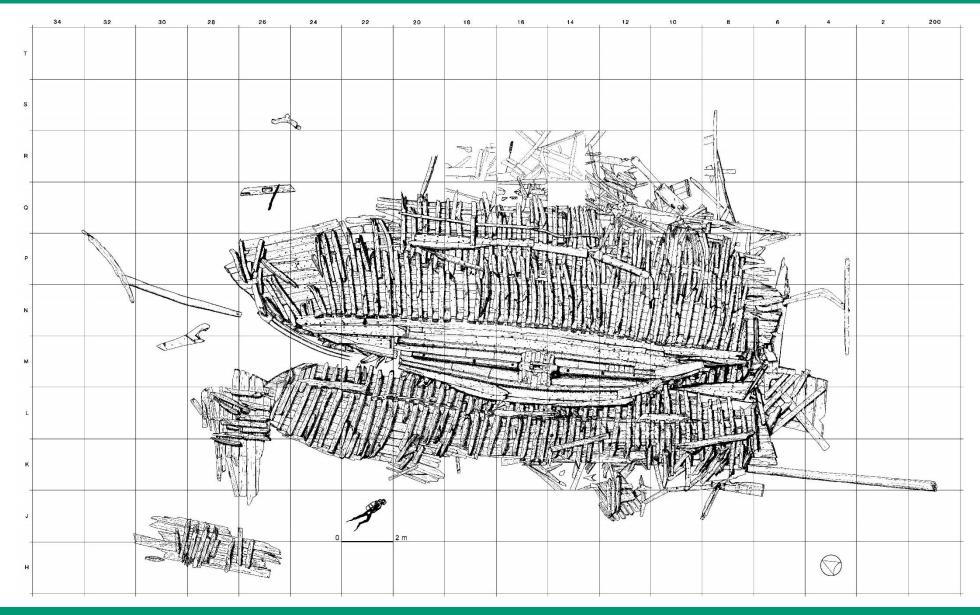


Cooperage...





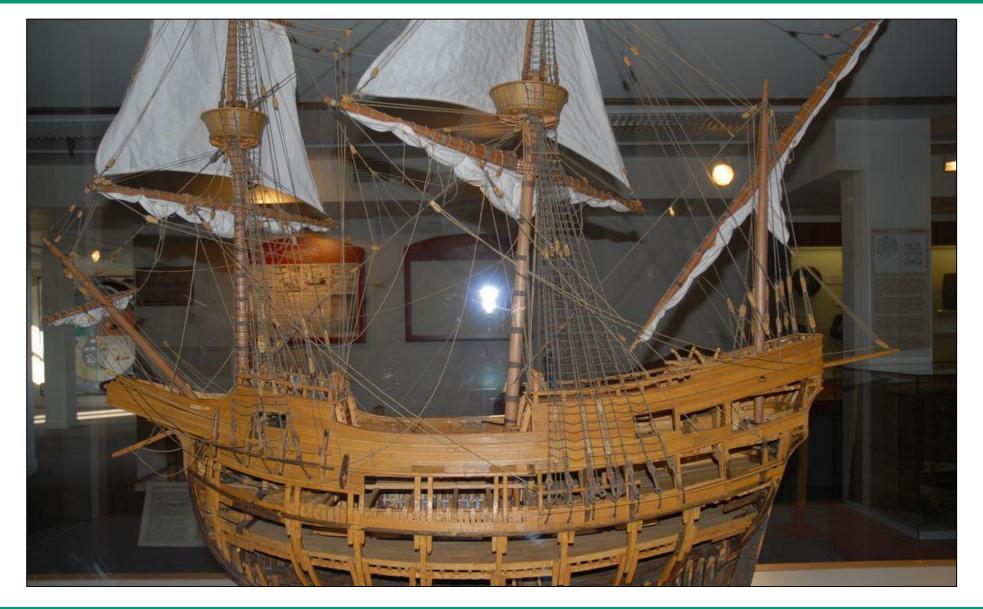




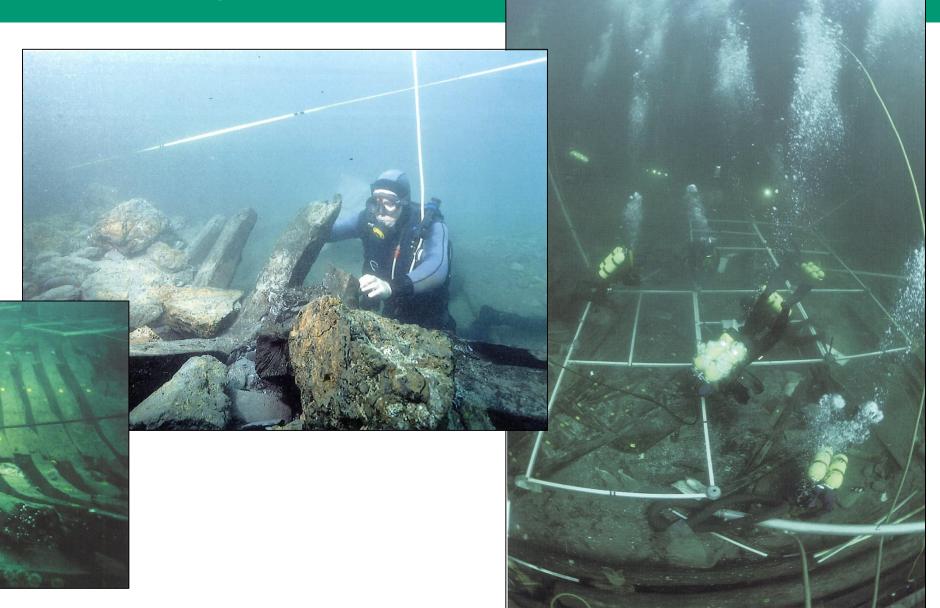






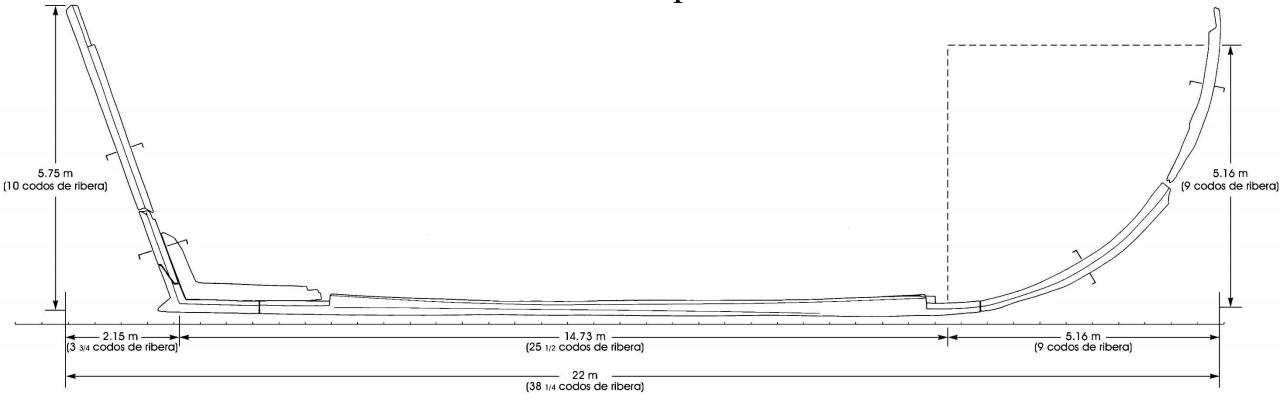




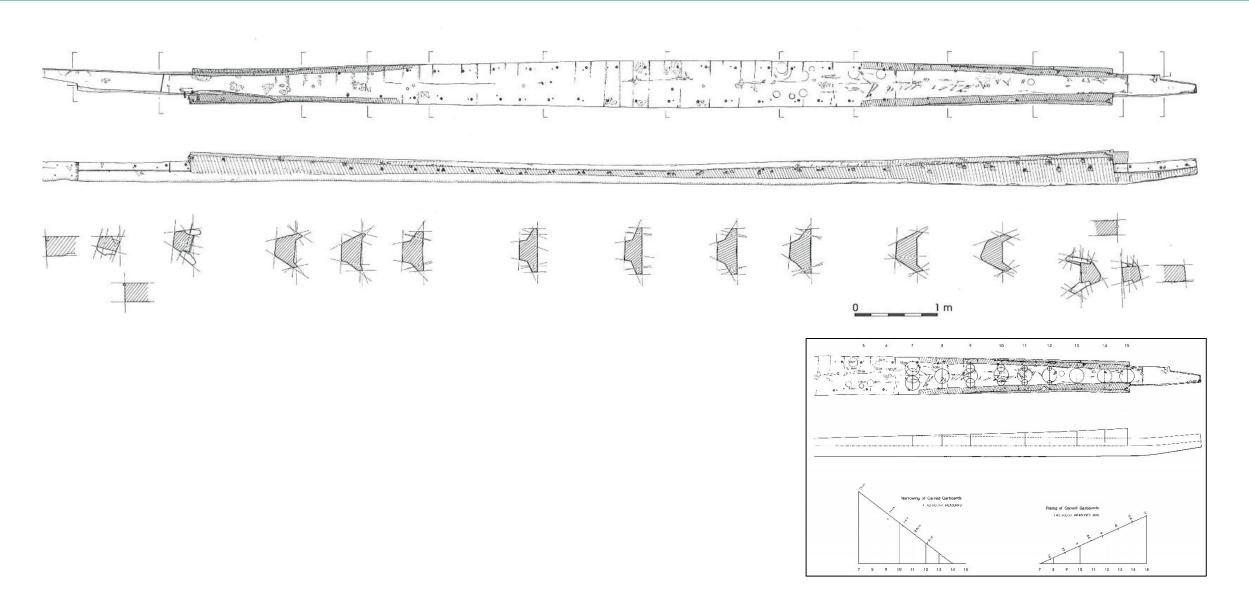




A careful excavation compounded with an excellent historical research led to an extremely accurate reconstruction of the ship.

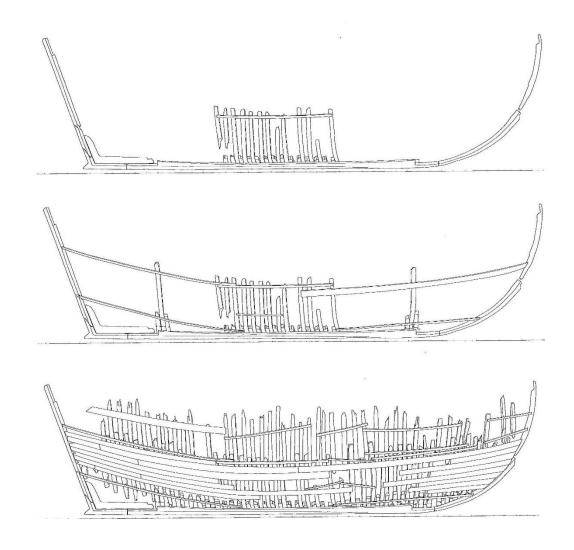




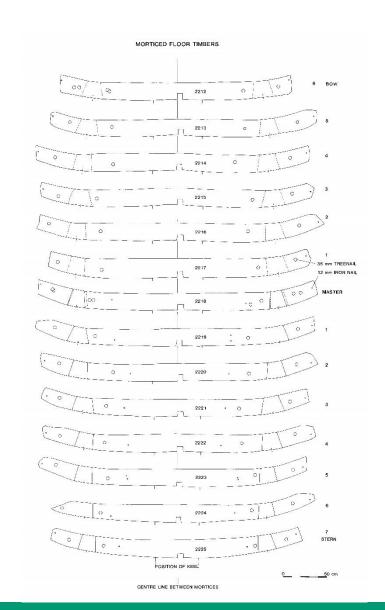


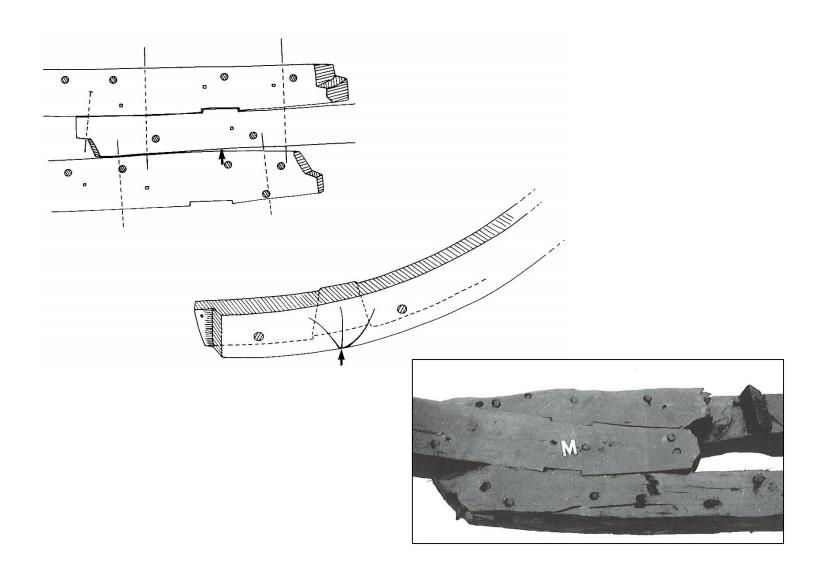


Research led to a good understanding of both the design and construction sequence of the ship.

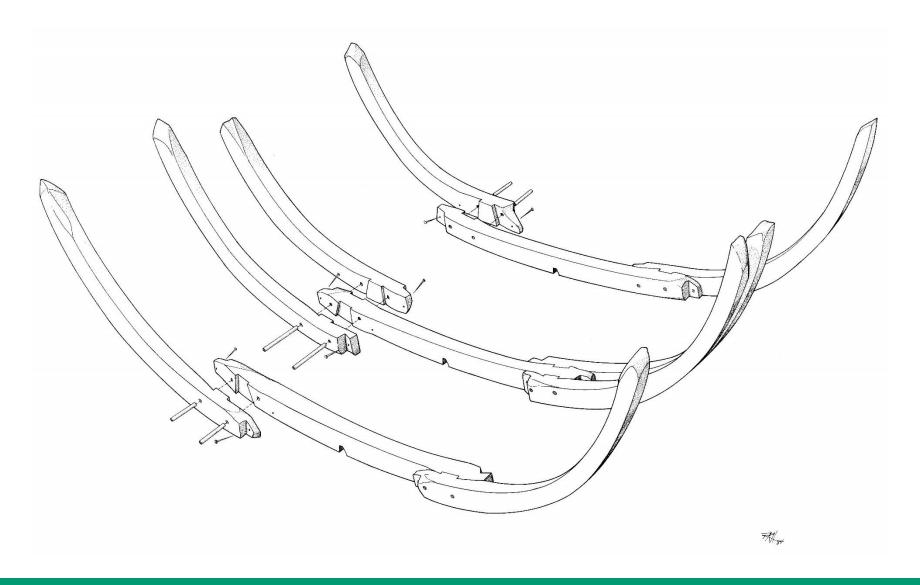




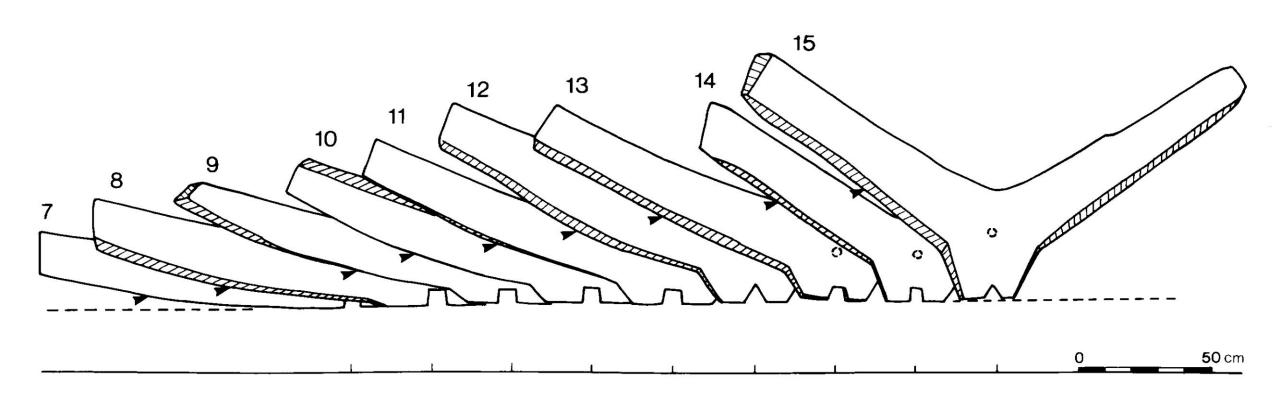




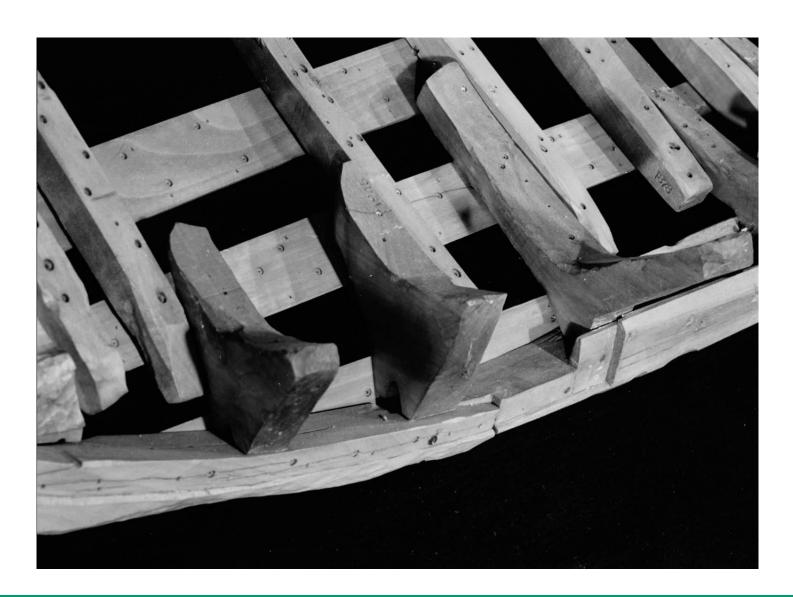


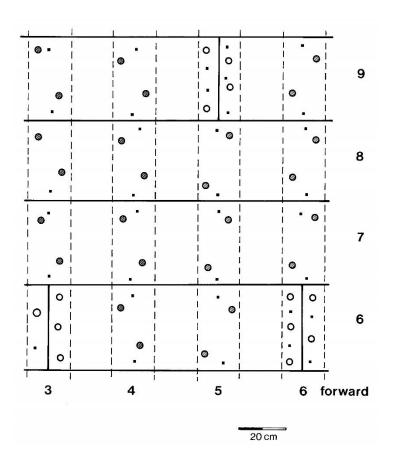




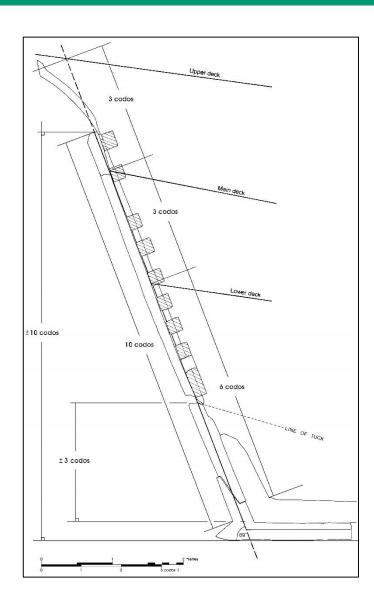


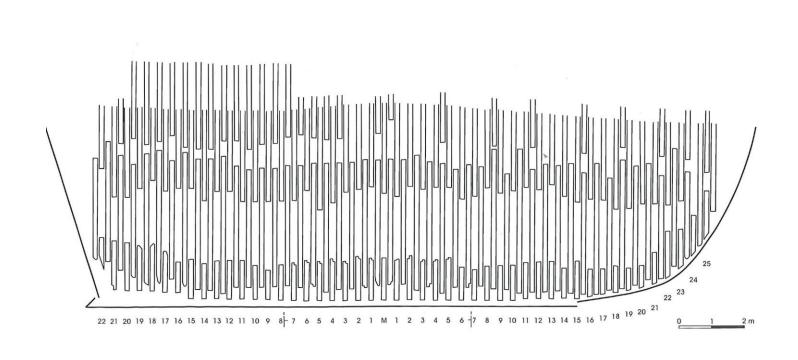




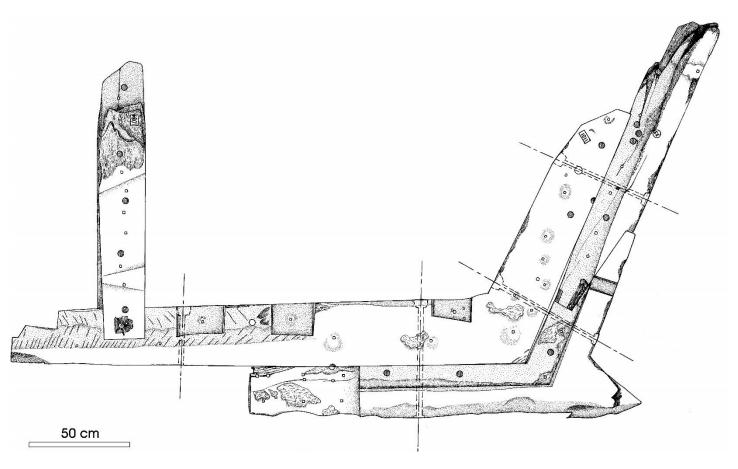


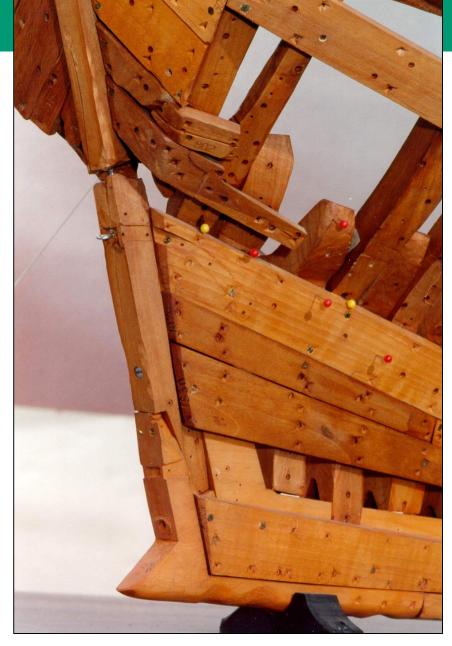




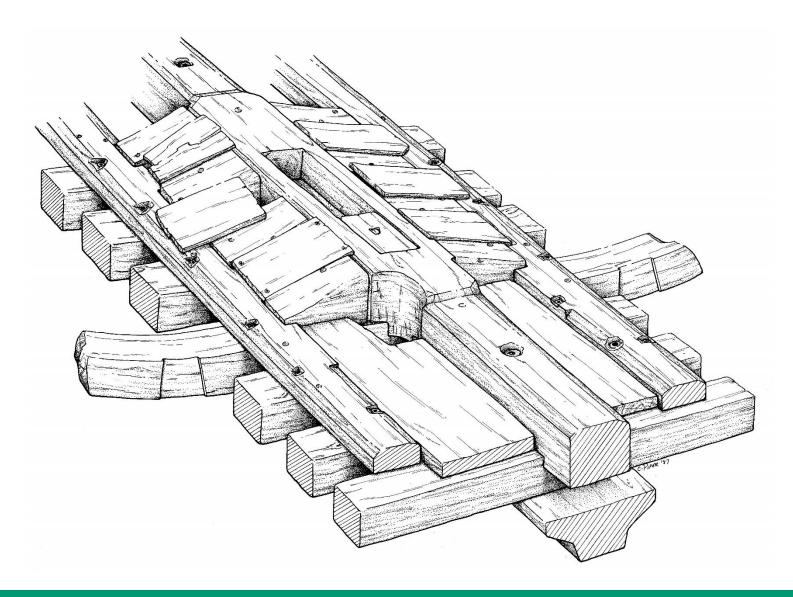




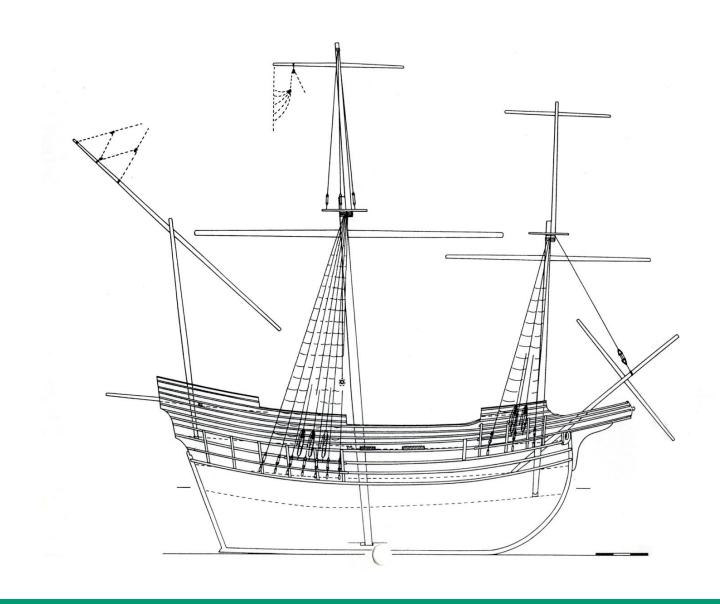




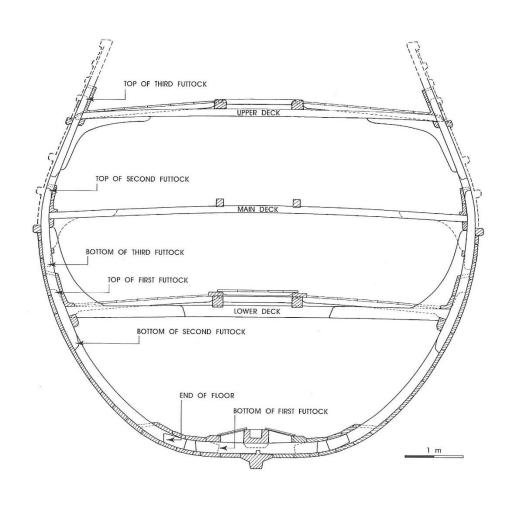


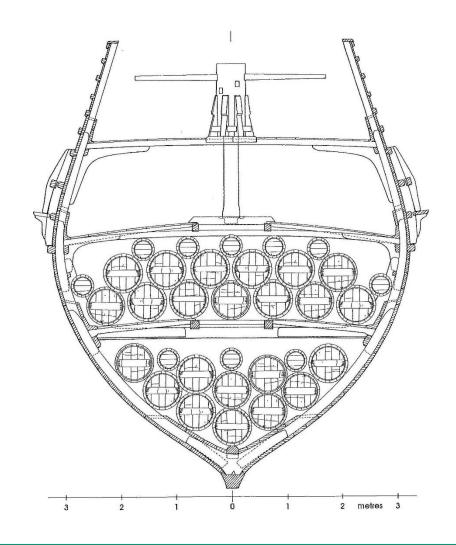






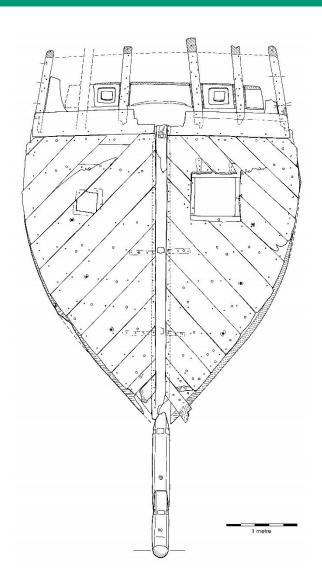


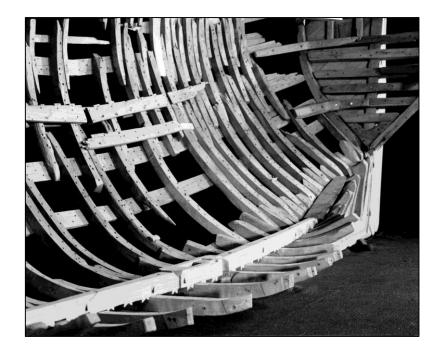




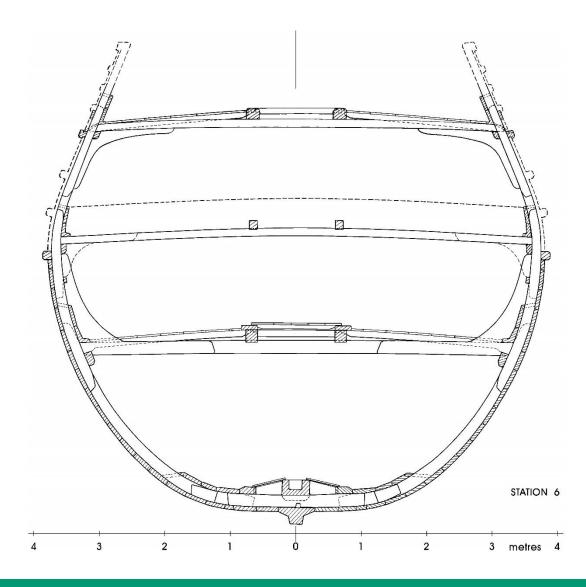


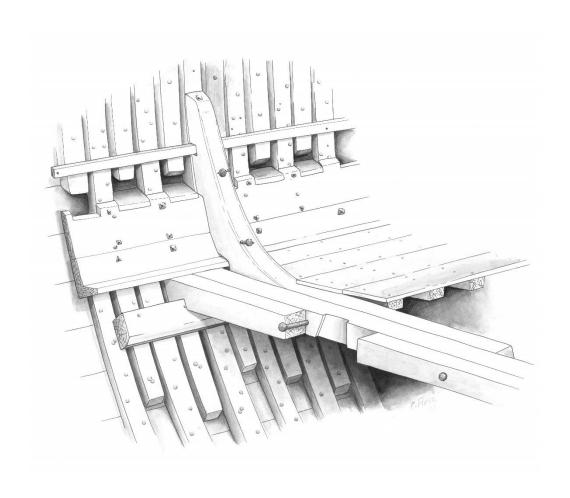




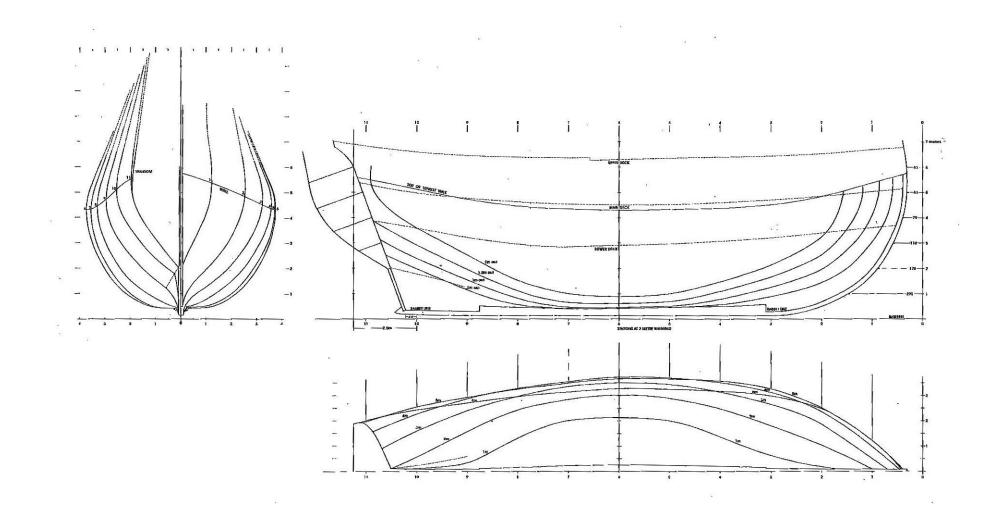




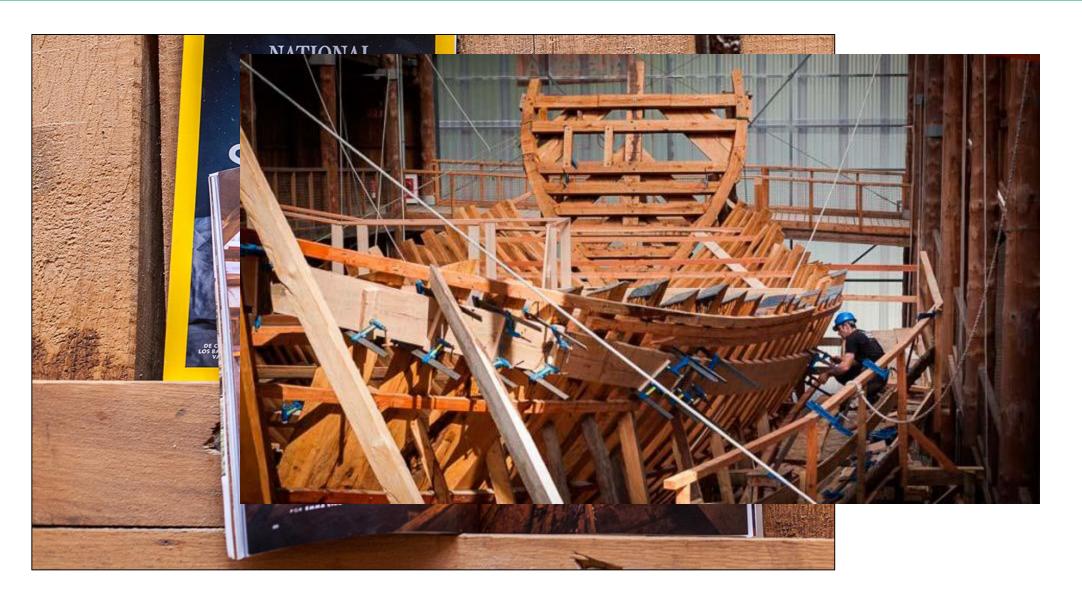














<u>Armament</u>

Arquebuzes,

Haquebuts,

Versos,

Bombardetas

,

Cerbatanas,

Falconetes.

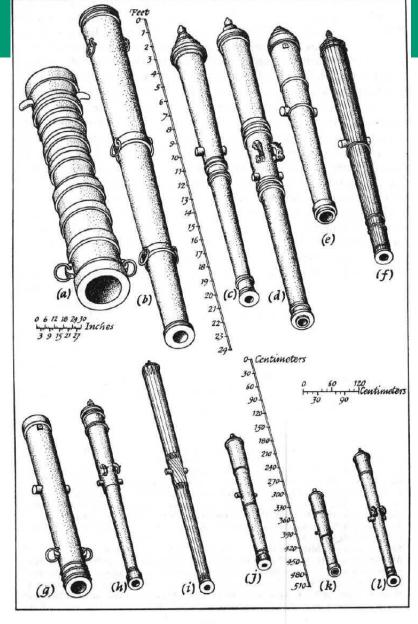
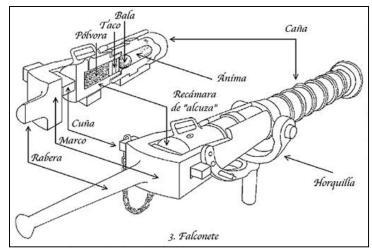
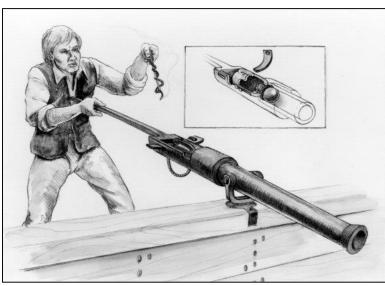


Fig. 9





Versos



Falconetes

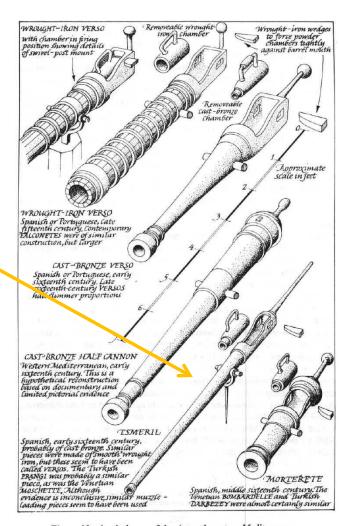


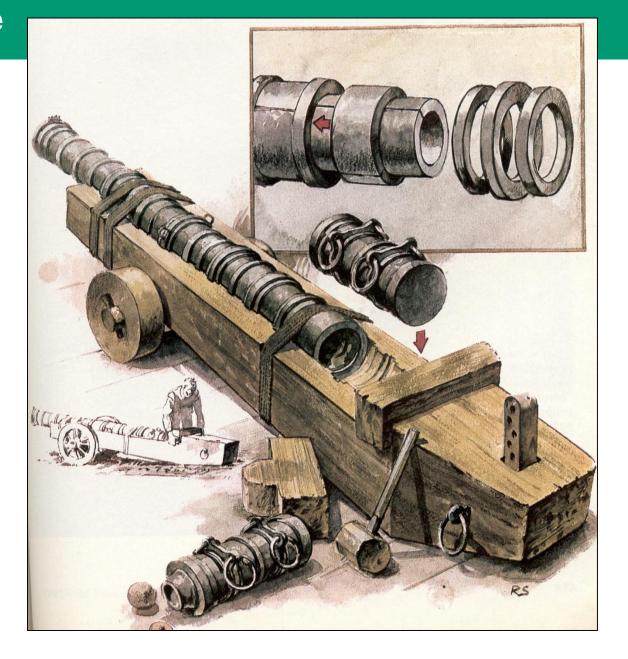
Fig. 7 Naval swivel guns of the sixteenth-century Mediterranean



Bombardetas

Cerbatanas

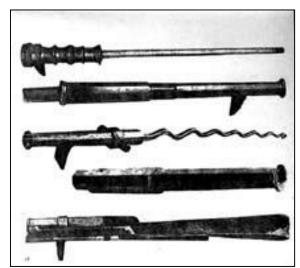
(small caliber bombardetas)





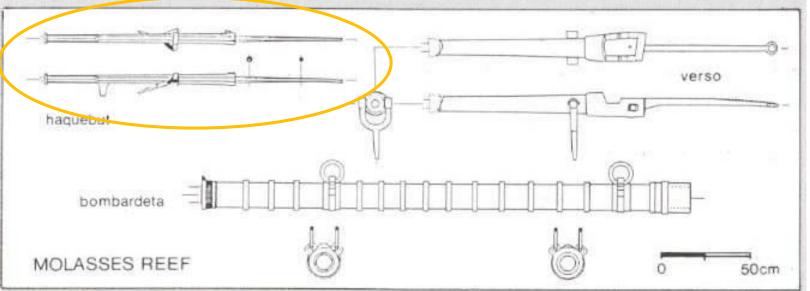
Haquebuts





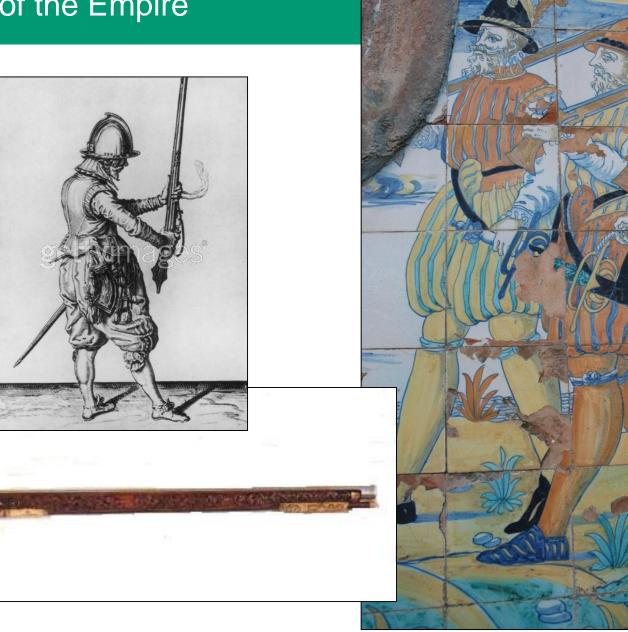
15th century

16th century





Arquebuzes





Spanish Shipwrecks





Atlantic Fleets:

Cayo Nuevo Wreck

1554 fleet

1622 fleet

1641 Concepción

1715 fleet

1728 Guadalupe and Tolosa

1733 fleet

Pacific Ships

1600 San Diego

1638 Concepción



The Fleets (from Hist. Mar. del Caribe I – Part 3)

The fleets (1560s)

Nueva España (from Seville to Veracruz)

Tierra Firme (from Seville to Cartagena)

Manila (from Manila to Acapulco)

Lima (from Lima to Panama)



The legislation that regulated the departure of the *Nueva España* and *Tierra Firme* fleets was issued on October 18 1564.

The first left in April to the Gulf of Mexico and the second in August to Panama Isthmus.

After spending the winter in the New World, the Panama ships raised anchor in January and the Veracruz ones in February.

Both fleets were expected in Havana by March, from where they were to depart to Spain together, as soon as they were ready.



From Spain Açores Leaving Seville around April or May, ships sailed Madeira South to the Canary Islands Islas canarias (1 week), and then West to the Antilles, between 17 and 15° latitude South (1 month). Cabo Verde From the Canaries to the Caribbean







They would bring to the New World almost everything. There were restrictions to the production of many goods, to ensure that the colonies would depend from the main land.







On the way to Europe ships would carry large quantities of copper and silver in ingots, coins, or artifacts of many types. Gold, emeralds, and pearls were also an important part of the cargo, which was completed with the agricultural production of the settlers' farms: cow hides (generally raw), tobacco, cocoa beans, cochineal, indigo, precious hardwoods, coconuts (introduced by the Spanish), and many other small productions, such as gourds to make exotic drinking vessels.







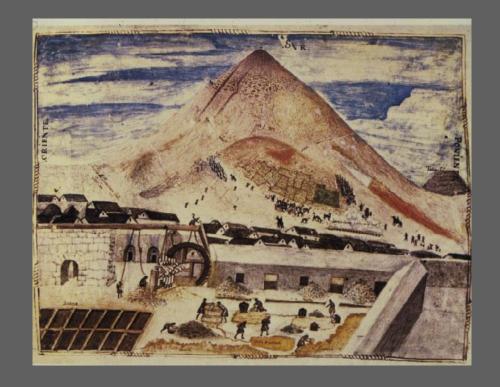




The Armada del Mar del Sur

From 1545 onwards, the quantities of silver shipped from Peru increased dramatically after the discovery of the Potosí mines.

Every year a fleet loaded with silver would sail from Lima's port of Callao, into Panama City, from where it was carried on the back of mules to Portobelo, and then shipped to Spain via Havana.



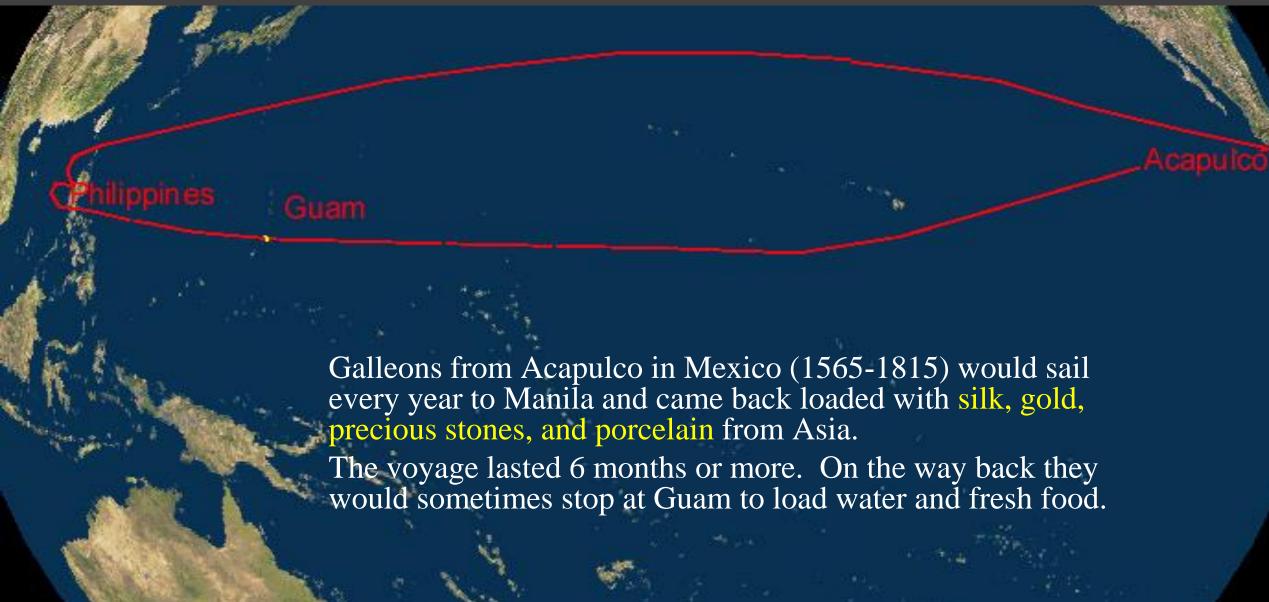
Acapulco

The Fleets

The trip from Lima (Callao) to Panama lasted around 3 weeks. The trip back, however, could take as long as 5 months, due to contrary winds.



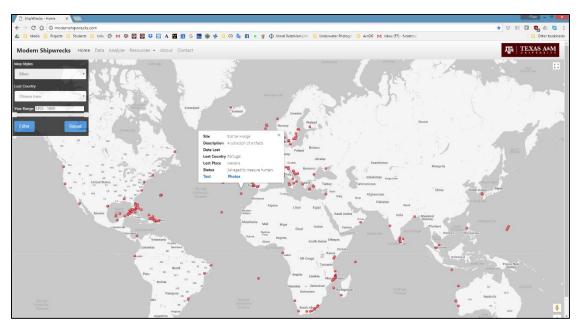




The database project

The ShipLAB has an ongoing project aiming at creating a website where most ships excavated and with published materials can be searched and

studied.



http://www.modernshipwrecks.com/

Cayo Nuevo Wreck

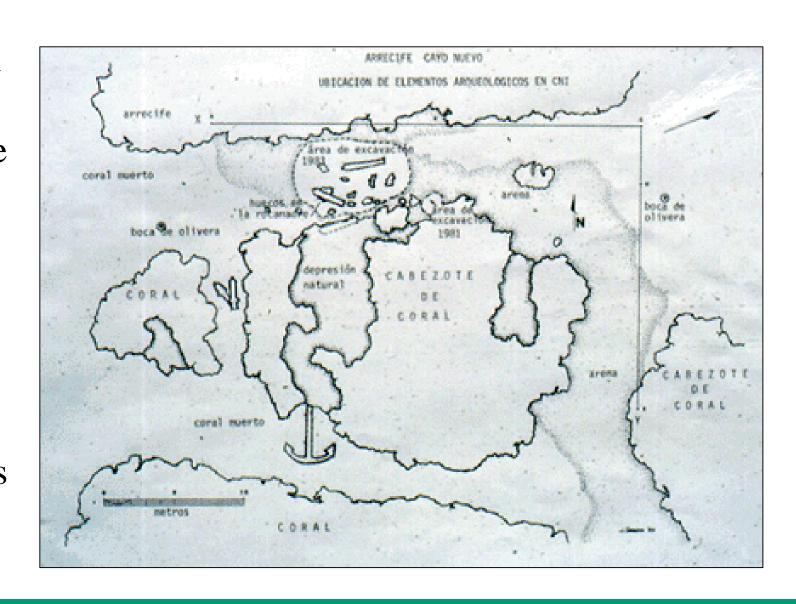
Found by two sport divers from Louisiana off the coast of Mexico, at Campeche Bay, in 1979, this shipwreck has been dated to the mid 16th century.





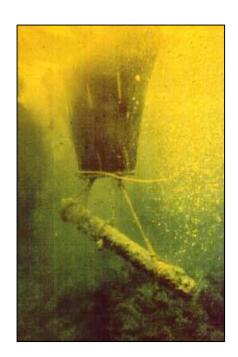
After 4 field seasons carried out by INAH's Centro Regional del Sureste and the Institute of Nautical Archaeology (INA) a gun was recovered, together with a large anchor and some artifacts.

This site has not been published (I have the reports from 1979 and 1980).

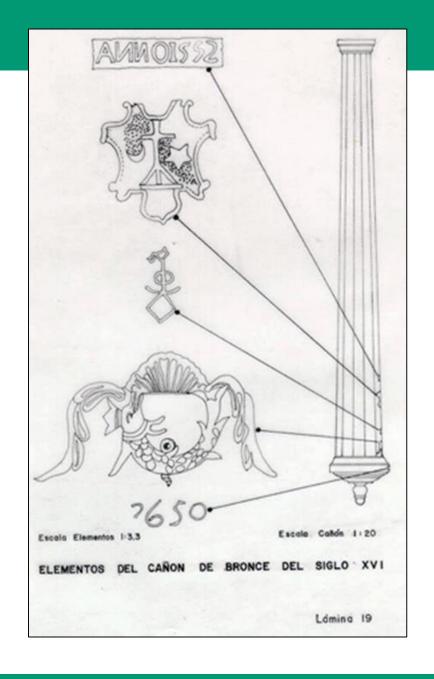




A bronze gun bearing a date 15?2, two iron guns, and an anchor wedged in the coral reef were found along with numerous ballast stones, ship's fittings, and fragments of lead hull sheathing.













One of the anchors found.



Test trenches were excavated, and revealed three additional cast iron guns, another anchor, and shards of Spanish olive jars. Globules of mercury found attached to brass pins suggest an inbound ship with cargo from Europe.





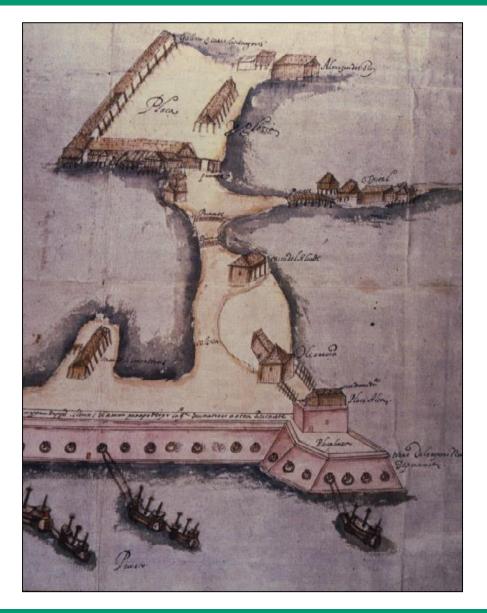
The 1554 fleet

On November 4, 1552, a fleet of 54 vessels left Spain to the New World. It consisted of 24 vessels for *Tierra Firme*, of which 6 were warships, 16 vessels for *Nueva España*, 10 ships for Santo Domingo, 4 ships with other destinations.

As it happened every year, the majority of the ships was meant to stay in the New World.

Only 5 of the 16 ships of the *Nueva España* fleet and 7 of the 24 ships of the *Tierra Firme* fleet were actually scheduled to make the round trip.

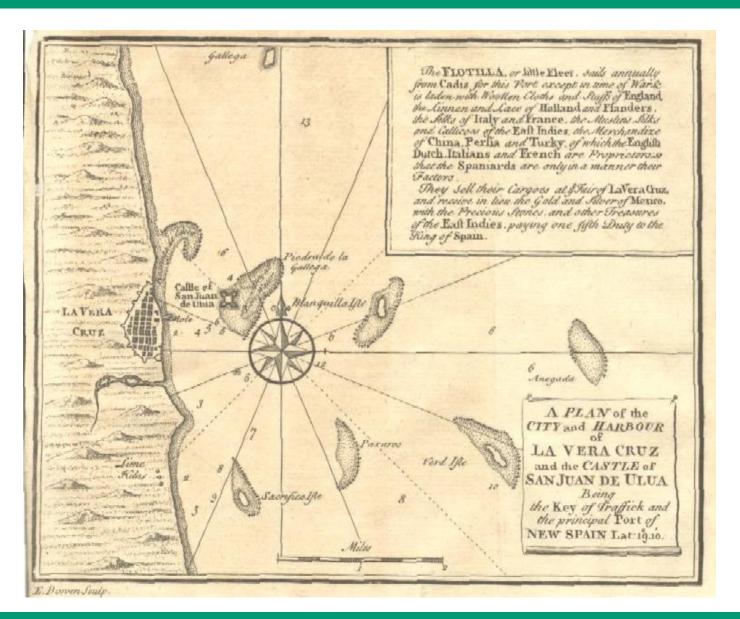




The 5 ships of the *Nueva España* fleet were the San Pedro, San Andres, San Esteban, Espiritu Santo, and Santa Maria de Yciar. After a voyage cursed by foul weather, pirates, and disaster, in which 8 ships were lost, the vessels of the *Nueva* España fleet arrived finally at San Juan de Ulúa in late February and early March, 1553.



Vera Cruz and San Juan de Ulua.





Since Veracruz had been devastated by a hurricane soon before their arrival, unloading, repairing, and reloading took longer than usual, and only the *San Pedro* left to Havana and Cadiz in time, accompanied by four other vessels available at the time.

Chip the my distance of the second state of th

Havana

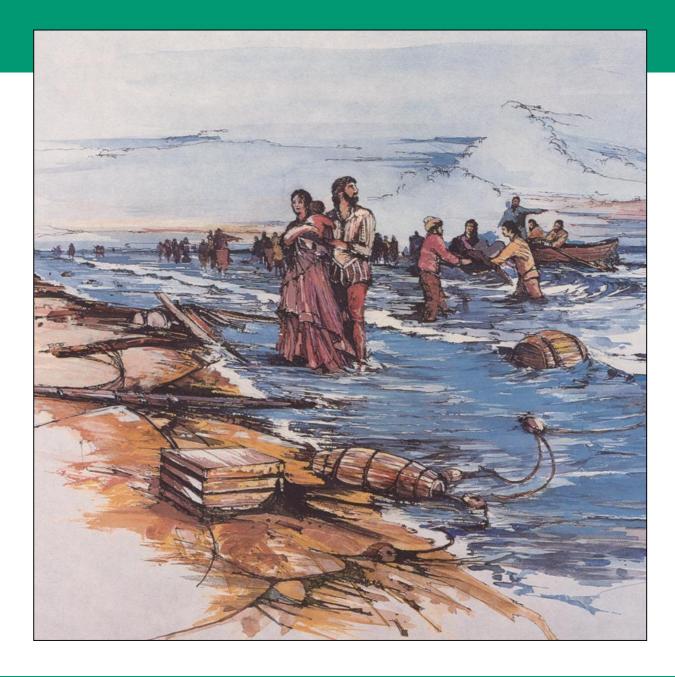


In 1554 the remaining 4 vessels left to Spain independently, under the command of Antonio Corzo, a few weeks before the arrival of that year's *Nueva España* fleet.

But 20 days after they left Veracruz the fleet was caught by a hurricane and pushed towards the coast. Three of the four vessels sunk off Padre Island on April 29, 1554. Only the *San Andres* escaped, reaching Havana safely but so damaged that it had to be scrapped.



Of the more than 500 people aboard the *San Esteban*, *Espiritu Santo*, and *Santa Maria de Yciar* half may have died in the shipwrecks.



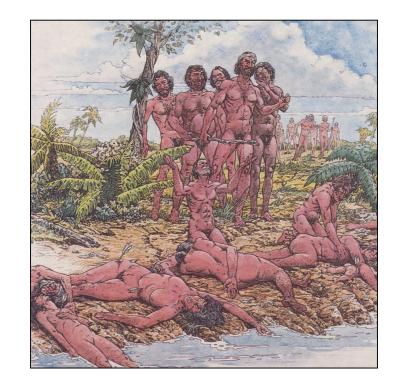




The survivors sent a small party of sailors south, in one of the ships' boats, to call for help, and then organized a march along the beach, back to Mexico.

They thought that they were much further south, and that it would not take long before they saw people.

However, they were very far from Mexico, and all except one died in the march.





A salvage expedition was sent as soon as the news of the disaster reached Veracruz, and recovered about half of the cargo loaded on the 3 lost ships.

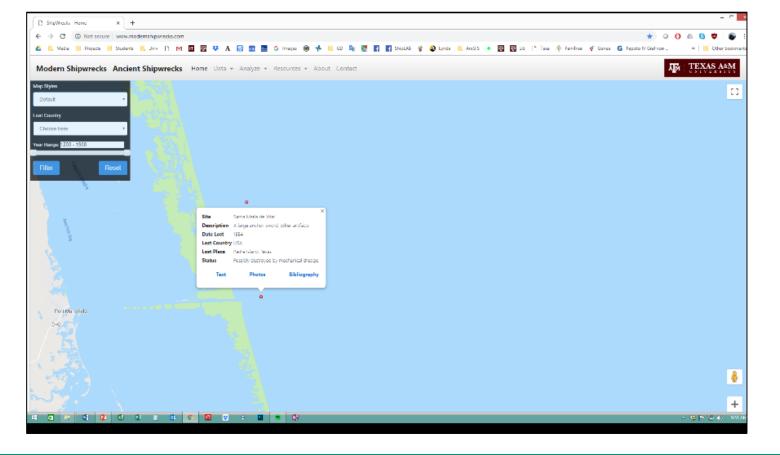




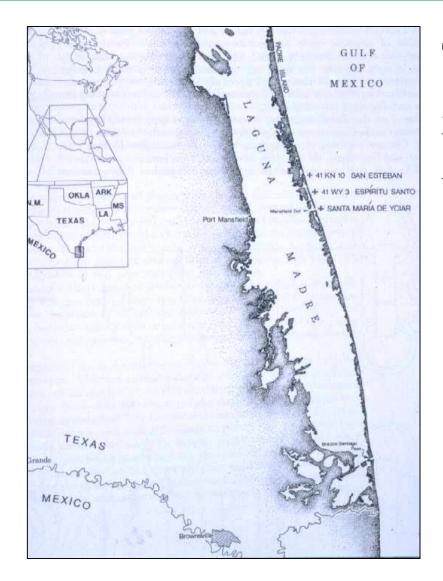
The site presumed to be the *Santa Maria de Yciar* was probably destroyed in the late 1940s by the U.S. Army Corps of Engineers, as they were opening the Mansfield Cut. Ship's timbers, chains and anchors were caught up by the

dredges...









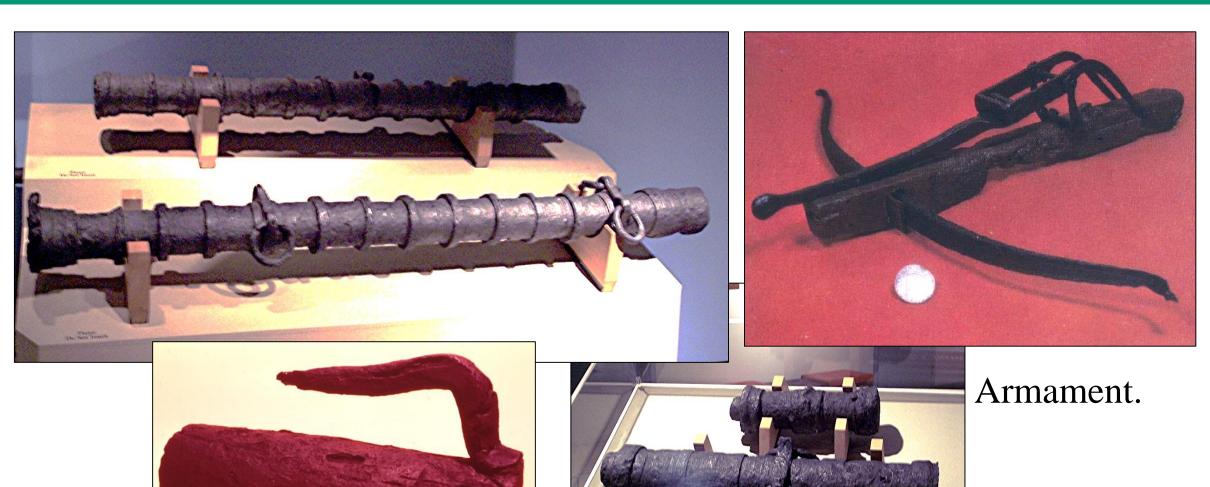
The *Espiritu Santo* was found and salvaged by a group of treasure hunters in 1967, after a businessman from Indiana found coins along the beach and decided to search the sea in front.



The State of Texas sued and won possession of the artifacts and sent them to be conserved at the University of Texas.



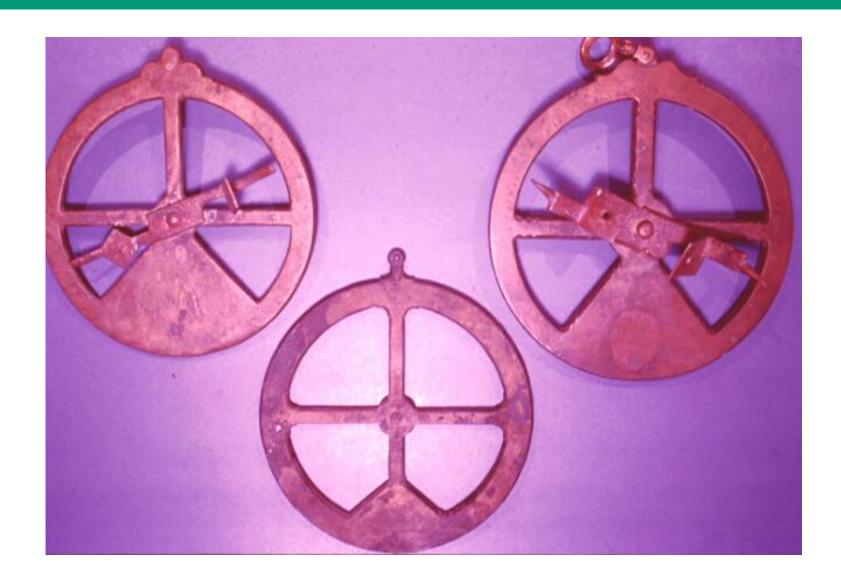




J. Richard Steffy Ship Reconstruction Laboratory



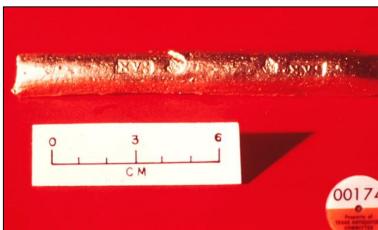
Nautical instruments.





Values.







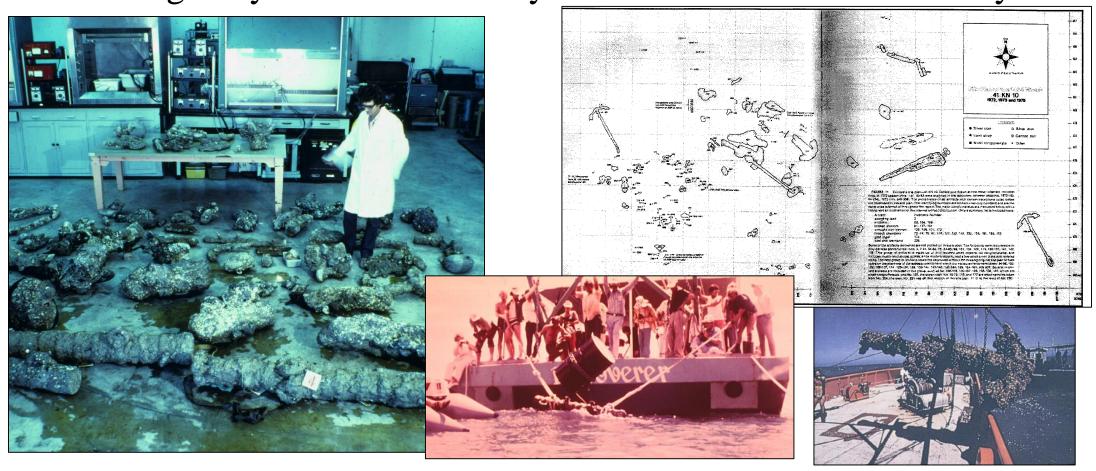


The artifact collection is now on display in a museum, in Corpus Christi.



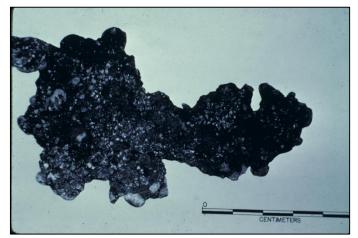


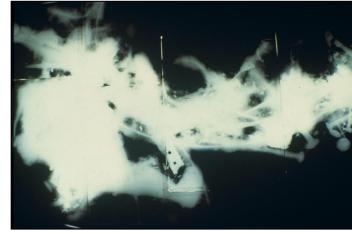
The San Esteban was found by the Texas Antiquities Committee in 1973, and archaeologically excavated in the years that followed its discovery.





It preserved a large collection of artifacts, including weapons and rigging material.









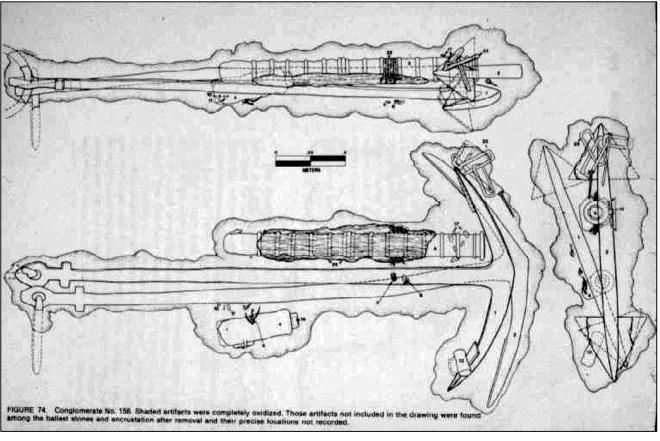






Concretion with anchors. These concretions were x-rayed and excavated in the laboratory.







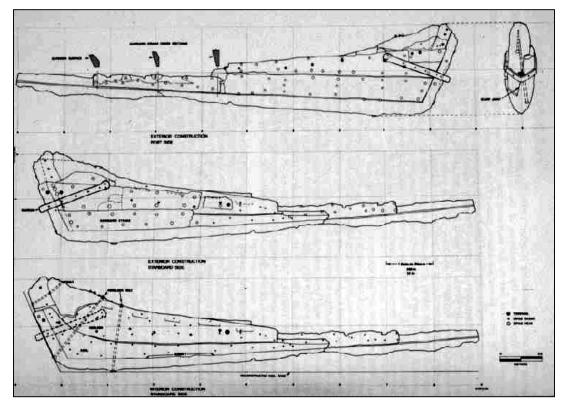
Artillery.

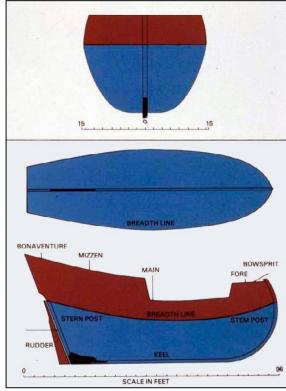






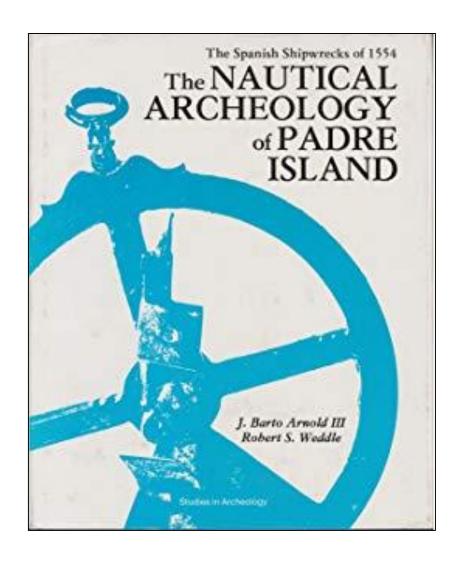
The hull remains of the *San Esteban* were scarce. However, they have allowed a tentative reconstruction of the hull and stand as the first remains of a Spanish colonial wreck to have been studied by archaeologists.







There is an extensive bibliography about the 1554 shipwrecks.



Questions?