

Treatises and Technical Texts on Shipbuilding



02.02 Taxonomies – Part 2

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Basil Greenhill's taxonomy (roots):

1. Rafts
2. Skin boats
3. Bark boats
4. Dugouts

1. Rafts (as a root of several types of watercraft).

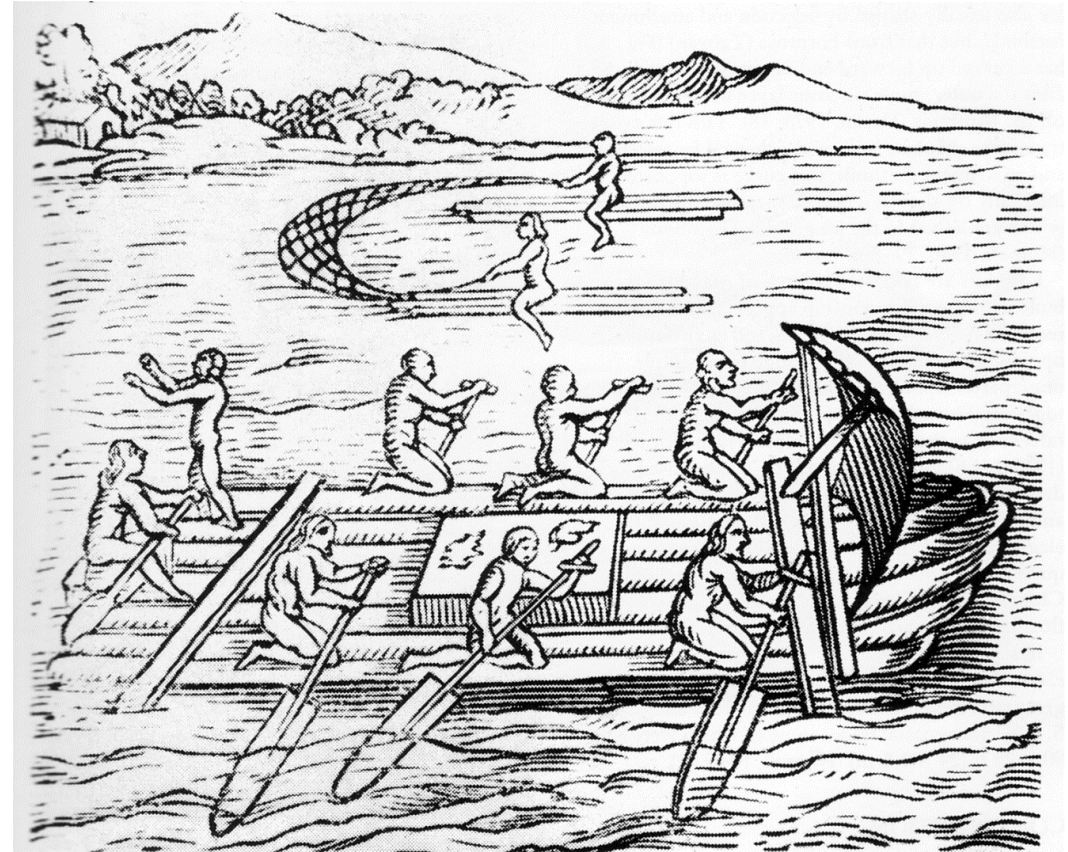
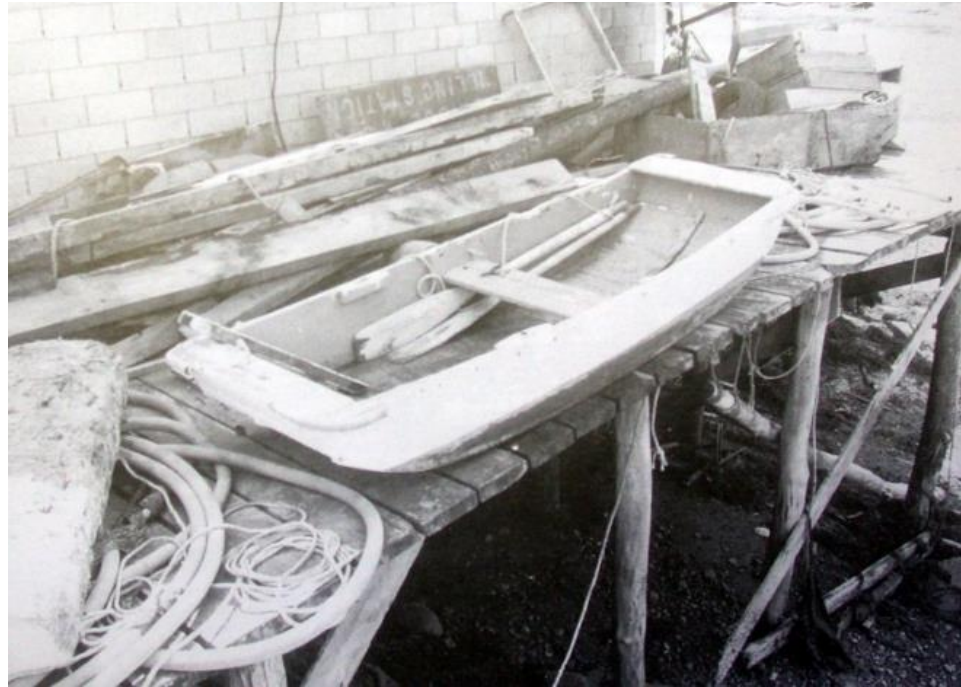
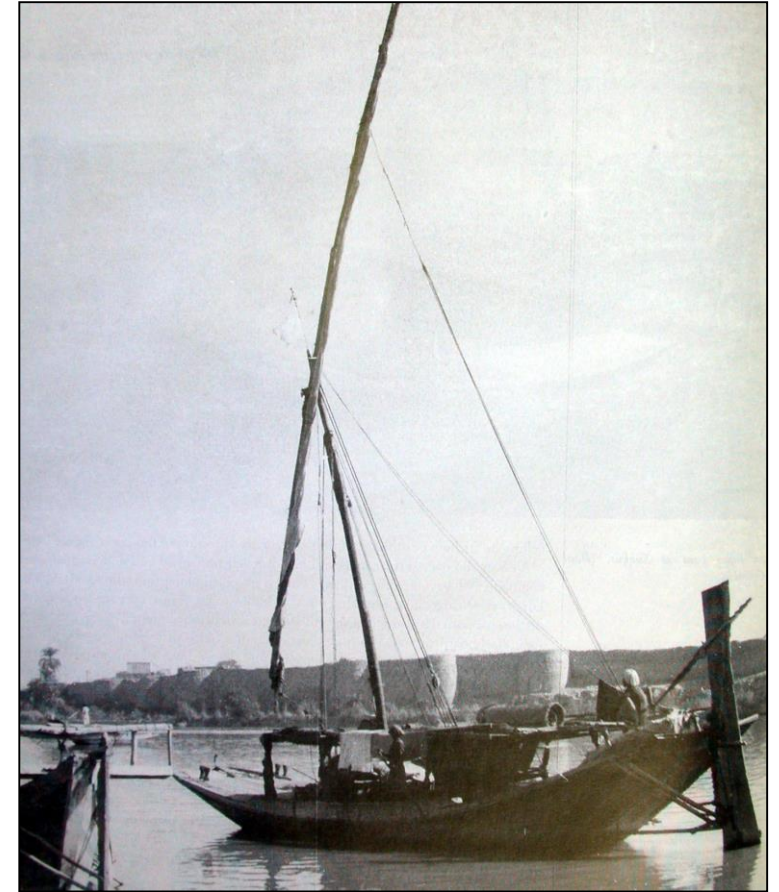
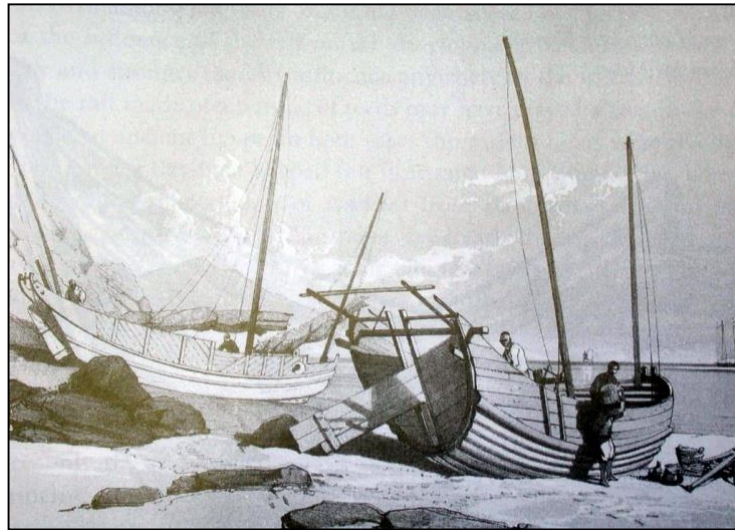


Figure 5.1 Sixteenth-century log rafts of Ecuador as drawn by G. Benzone. After Edwards, 1965: pl. 16b (courtesy The University of California Press).

1. Rafts (as a root of several types of watercraft).



2. Skin boats



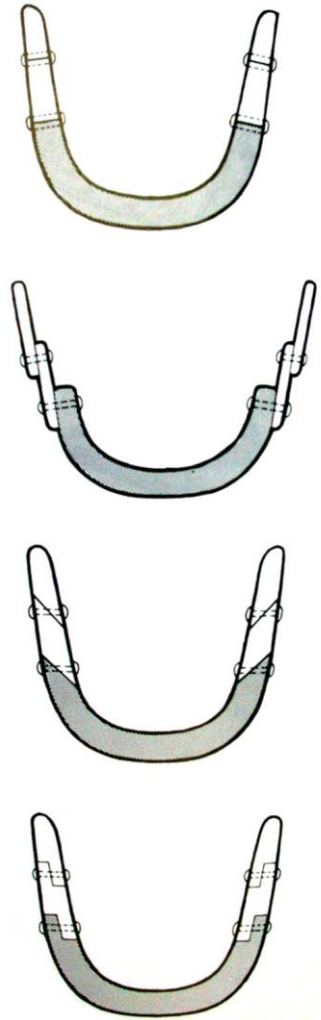
3. Bark boats



4. Dugouts



4. Dugouts



Patrice Pomey:

1. Conception
2. Construction
 - 2.1. Structural Principle
 - 2.2. Construction Sequence

1. Conception

How does a shipwright conceive the ship in his mind?

How does he define the structure?

Skeleton first? Shell first? Bottom first?

2.1. Structural Principle

Is most of the hull strength conferred by the planking, or by the frames?

Do the frames shape the runs of the planks (are the planks bent against or over the frames)?

Frame based? Shell based?

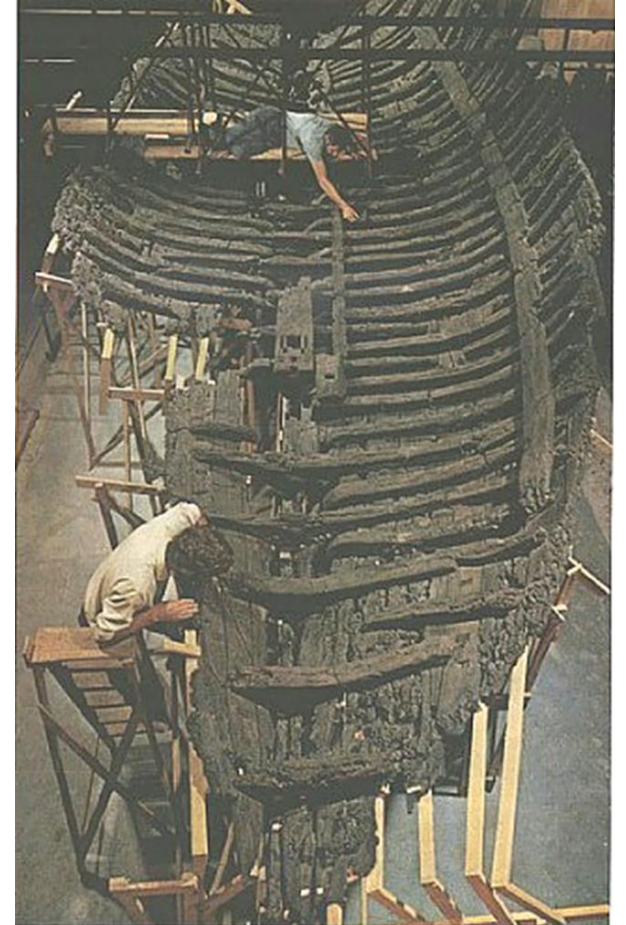
2.2. Construction Sequence

- a) Keel, floor timbers, first strakes, first futtocks, second batch of strakes...
- b) Keel, first group of strakes, floor timbers, second group of strakes...
- c) Bottom, floor timbers, first futtocks...
- d) Sides, bottom...

Kyrenia (4th c. BC)

Structural conception: shell based.

Building technique: shell first.



Marsala (3rd c. BC)

Structural conception: shell based.

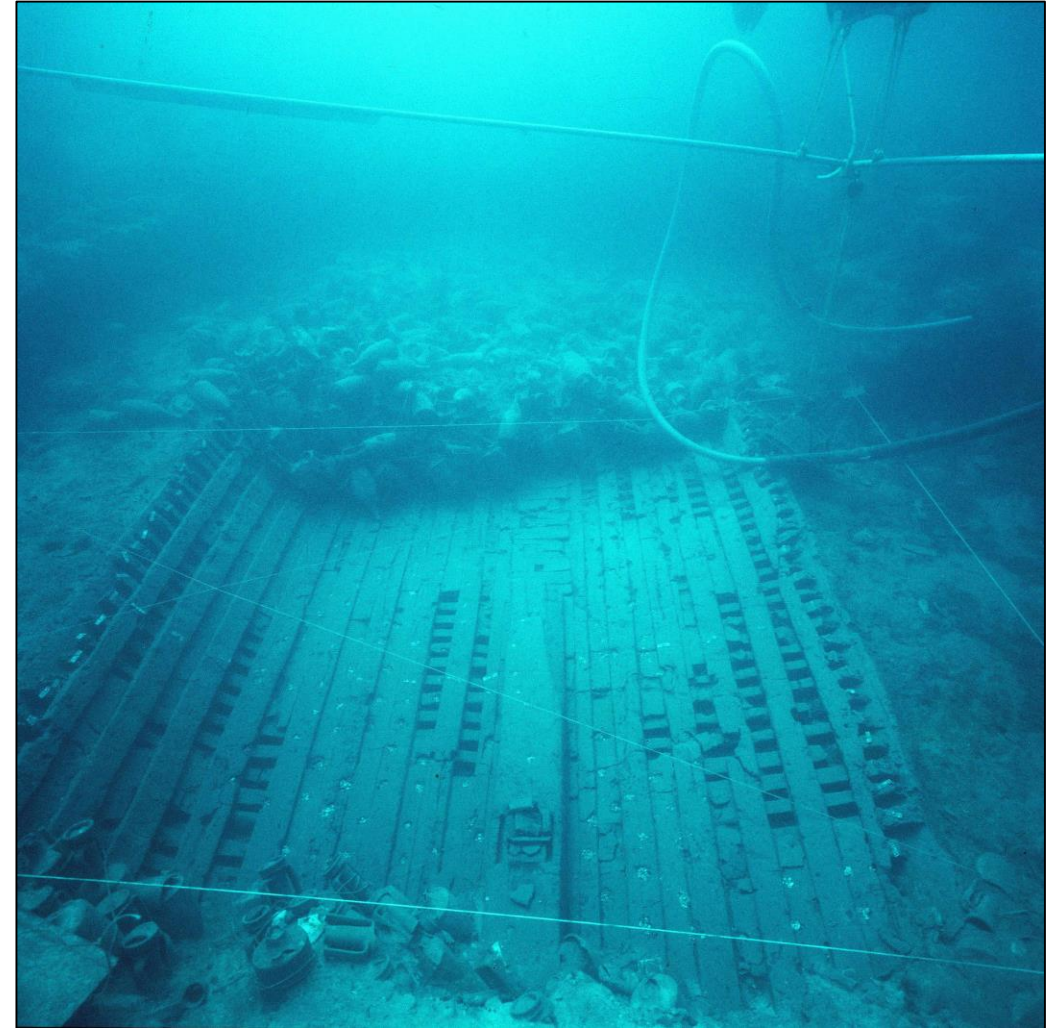
Building technique: first 11 strakes, floor timbers, second group of strakes, futtocks; in other words: shell first.



Madrague de Giens (1st c. BC)

Structural conception: shell based.

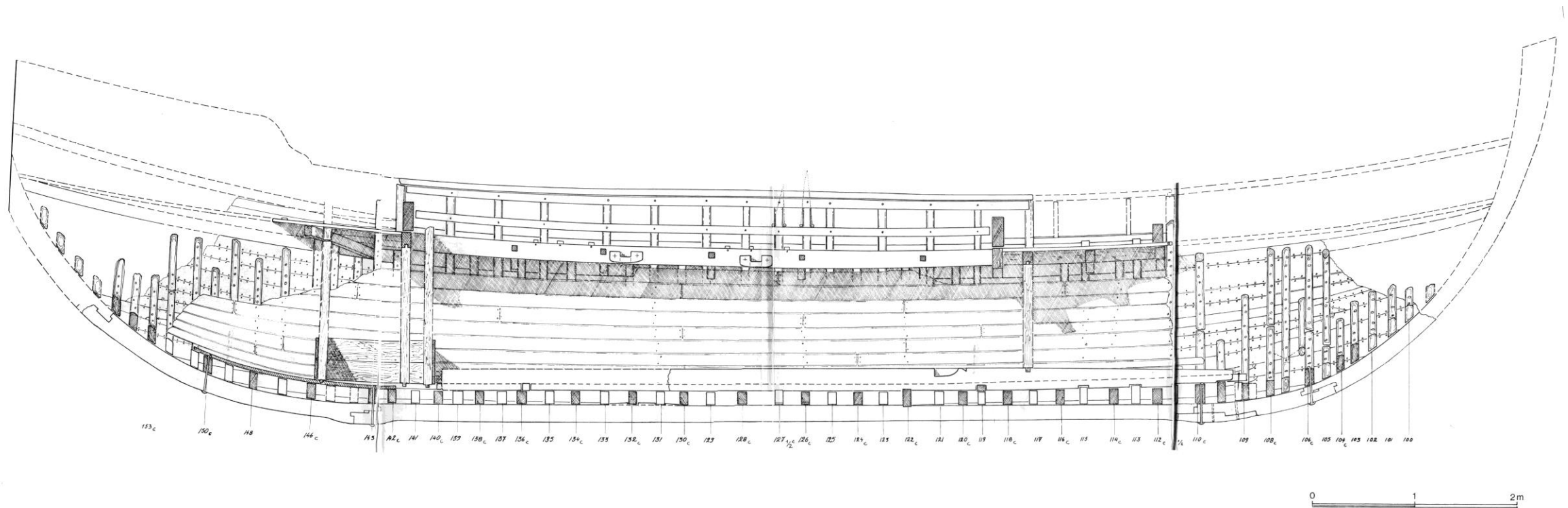
Building technique: although some of the floor timbers were fastened to the keel, it is considered purely shell first.



Anse des Laurons II (2nd c. AD)

Structural conception: shell based.

Building technique: although some opinions have been published suggesting a mixed construction it does not seem possible to consider other than a shell first construction.



Bourse de Marseille (2-3rd c. AD)

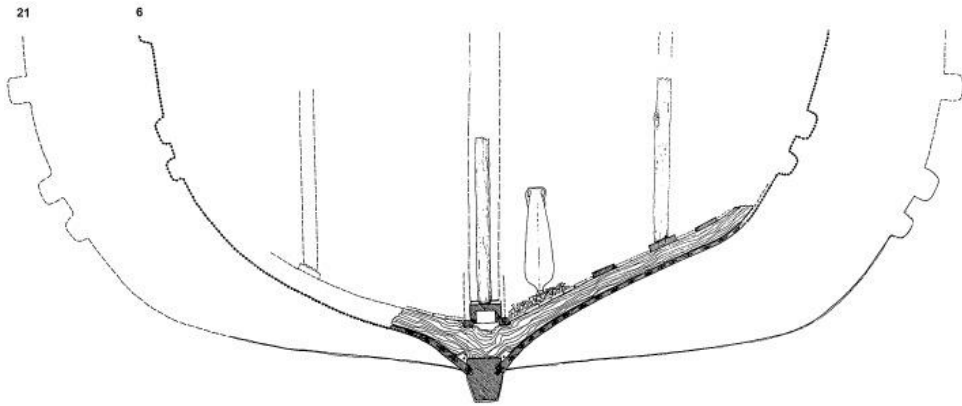
Structural conception: shell based.

Building technique: although the construction sequence proposed is based in a number of reversed pegs it does not seem likely that the (trapezoidal) garboard was affixed to the keel after the first floor timbers were in place, however, it seems possible that the upper strakes were built over the futtocks suggesting a mixed construction.



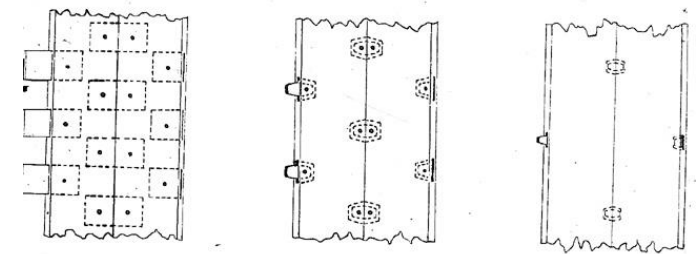
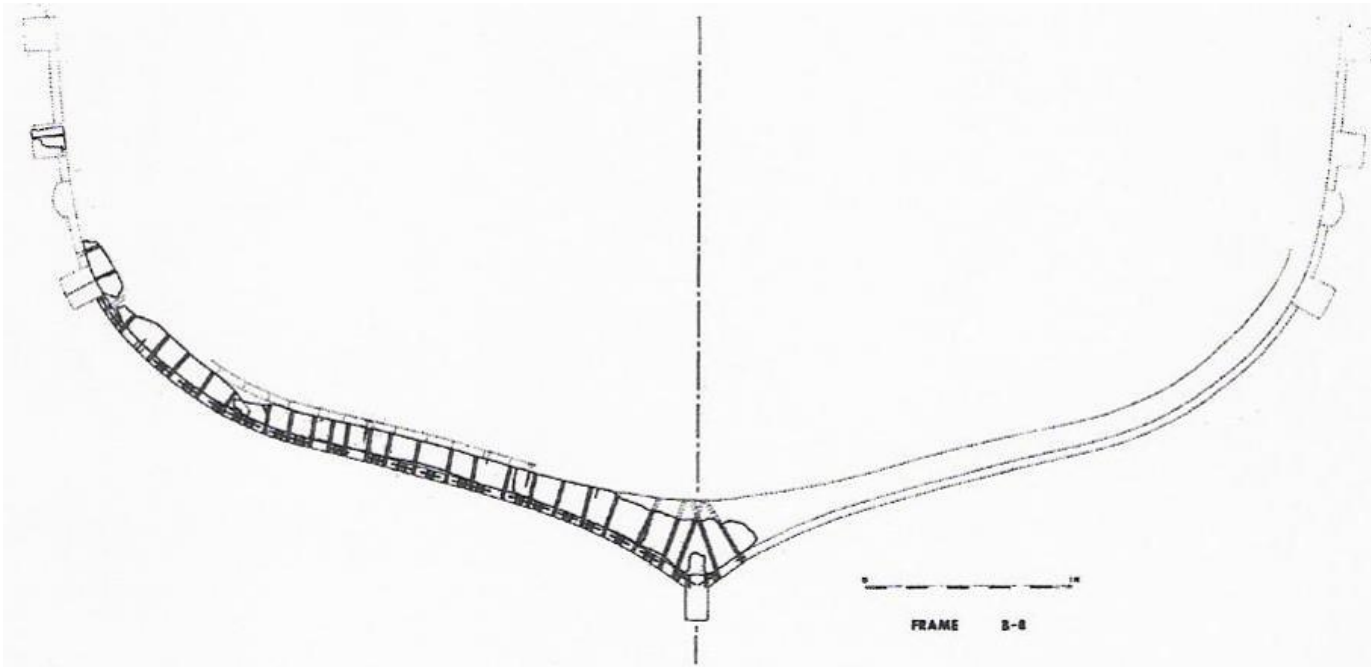
Port Vendres I (4th c. AD)

Structural conception: shell based.
Building technique: possibly mixed.



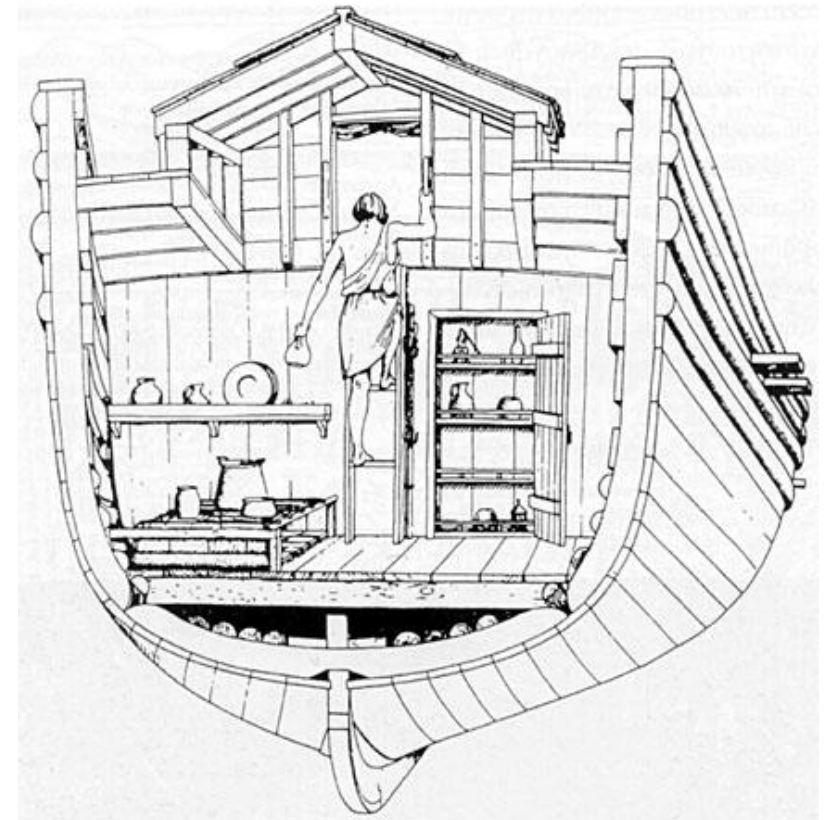
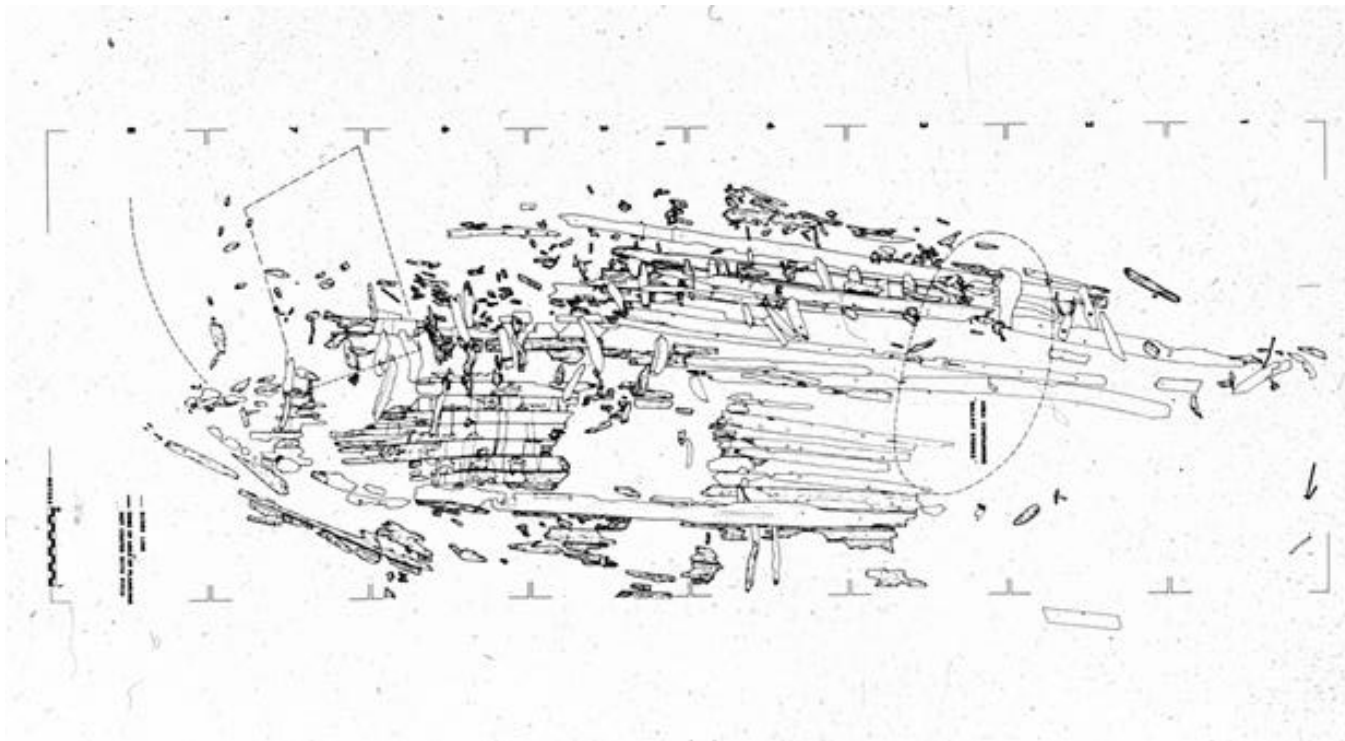
Yassi Ada II (4th c. AD)

Structural conception: shell based.
Building technique: mixed.



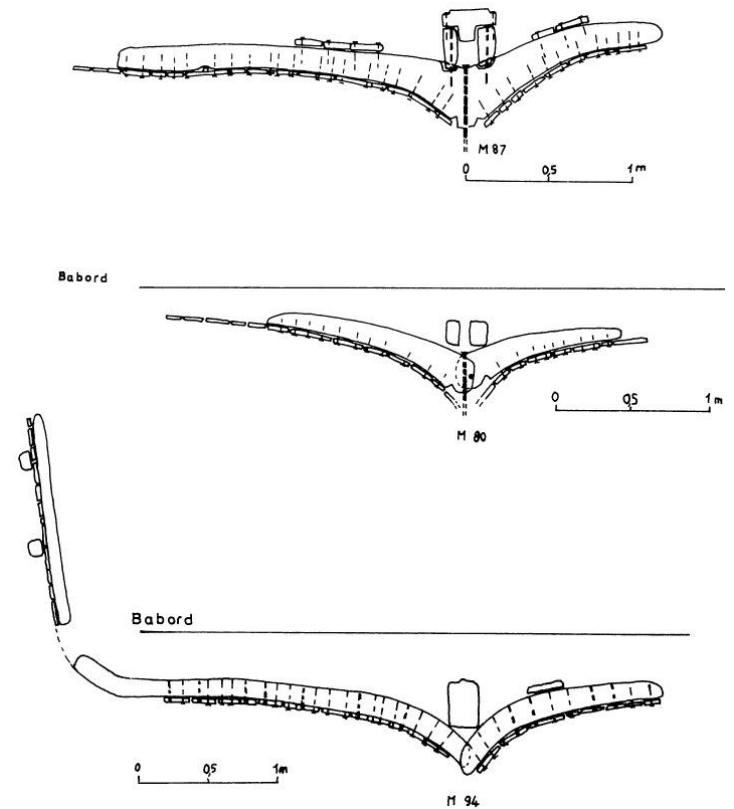
Yassi Ada I (7th c. AD)

Structural conception: bottom shell-based, upper works frame-based.
Building technique: mixed.



Saint-Gervais II (7th c. AD)

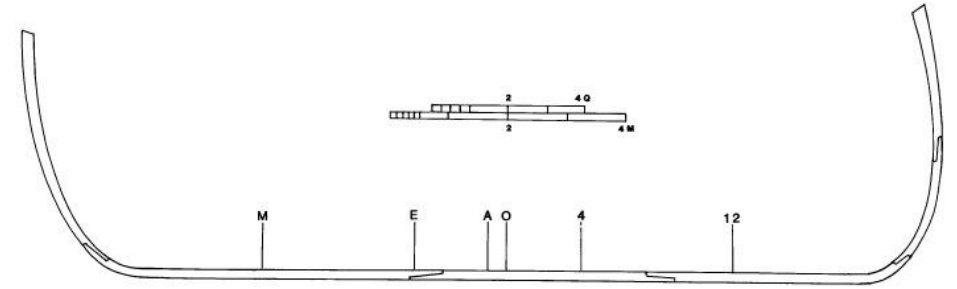
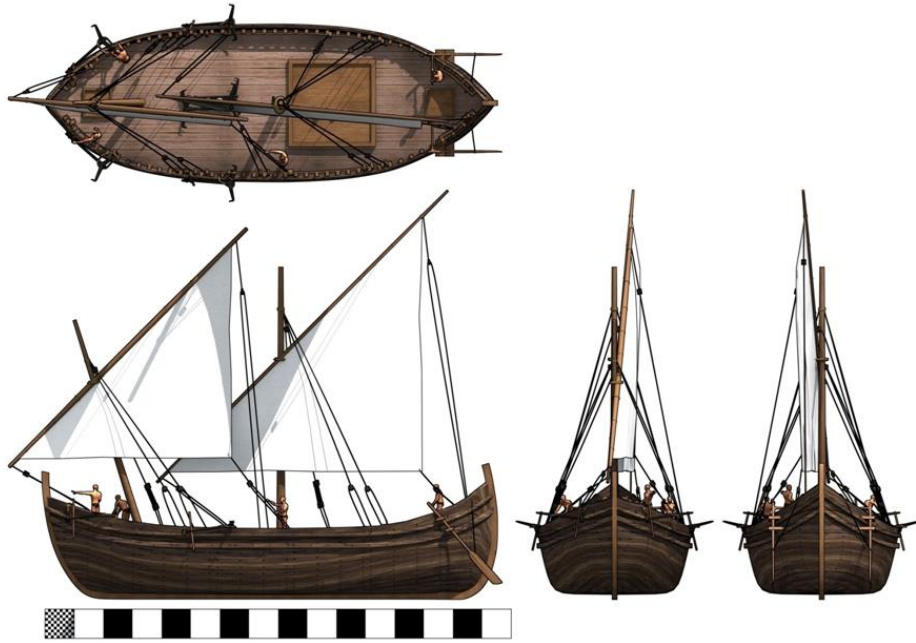
Structural conception: impossible to state given the fact that the ship was not fully excavated; perhaps mixed.
Building technique: mixed.



Serçe Limanı (11th c. AD)

Structural conception: Frame based.

Building technique: mixed.



1. Oral tradition
2. Partially geometric methods
3. Geometric methods



1. Oral tradition:
Cannot be built unless you know
how to.



1. Oral tradition:
Cannot be built unless you know how to.



2. Partially geometric methods

There are some geometric of mathematic aids, but you must know how to build ships to understand them.

Examples:
whole molding,
half models.

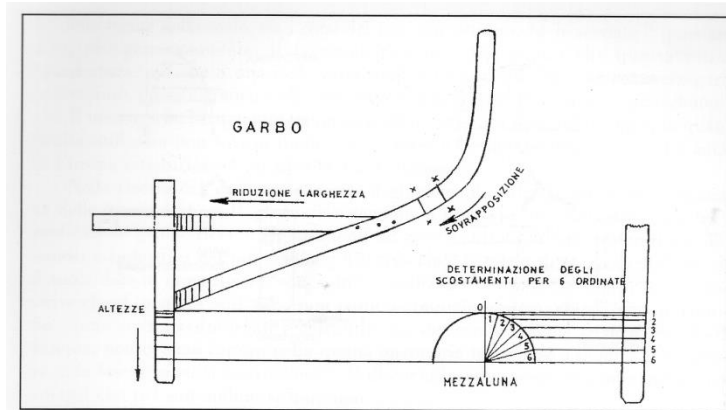


Fig. 3 - Il mezzogarbo e la mezzaluna (da MARZARI 1994 C).

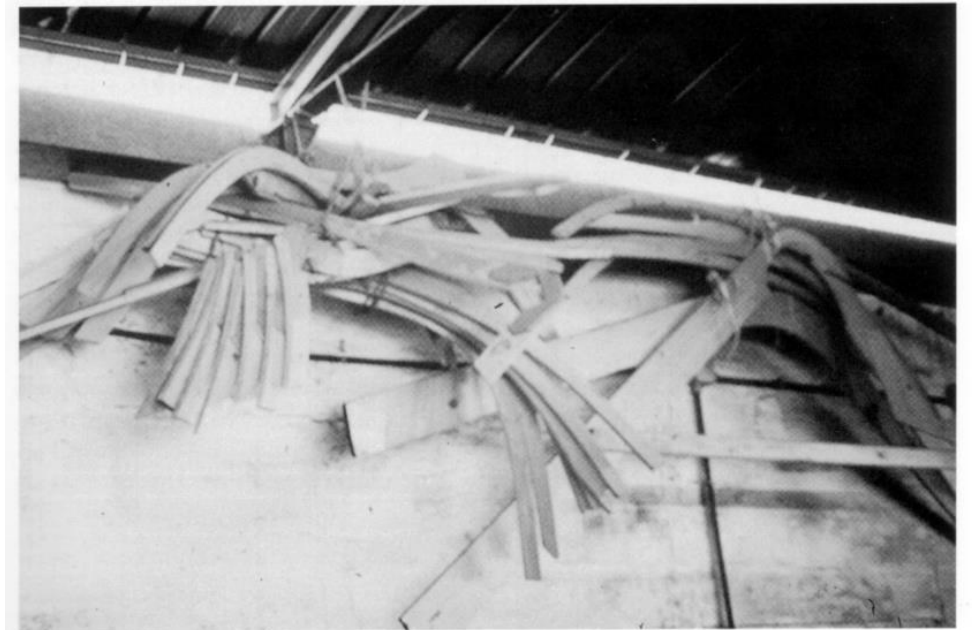
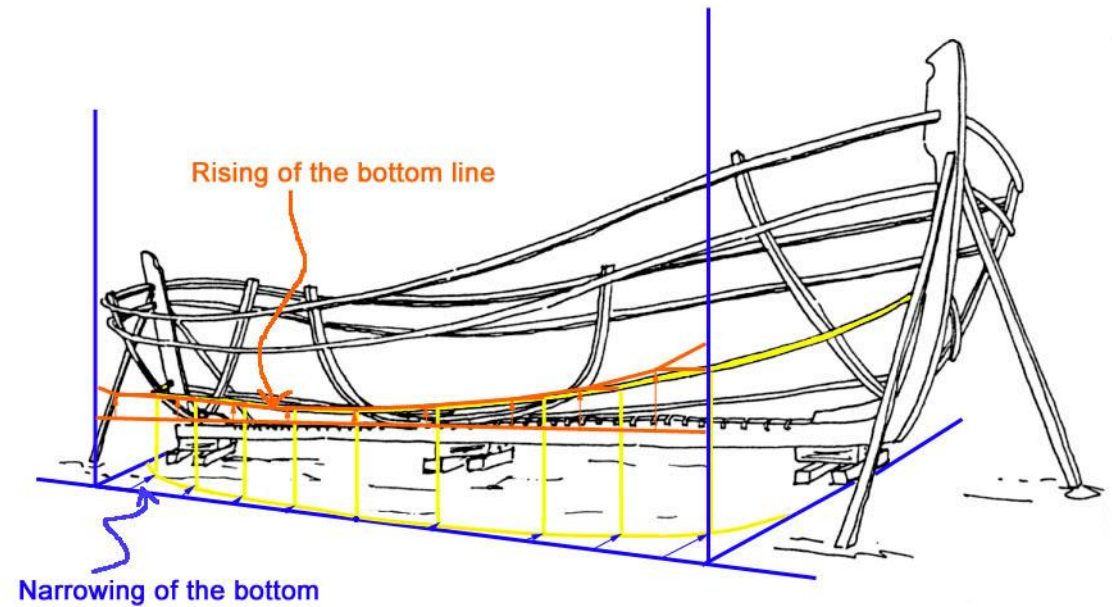


Fig. 2 - Cantiere Crivello, Porticello (Palermo). Seste di imbarcazioni costruite in precedenza (P. Dell'Amico).

2. Partially geometric methods Examples: Whole molding.



2. Partially geometric methods

Examples:

Half models.



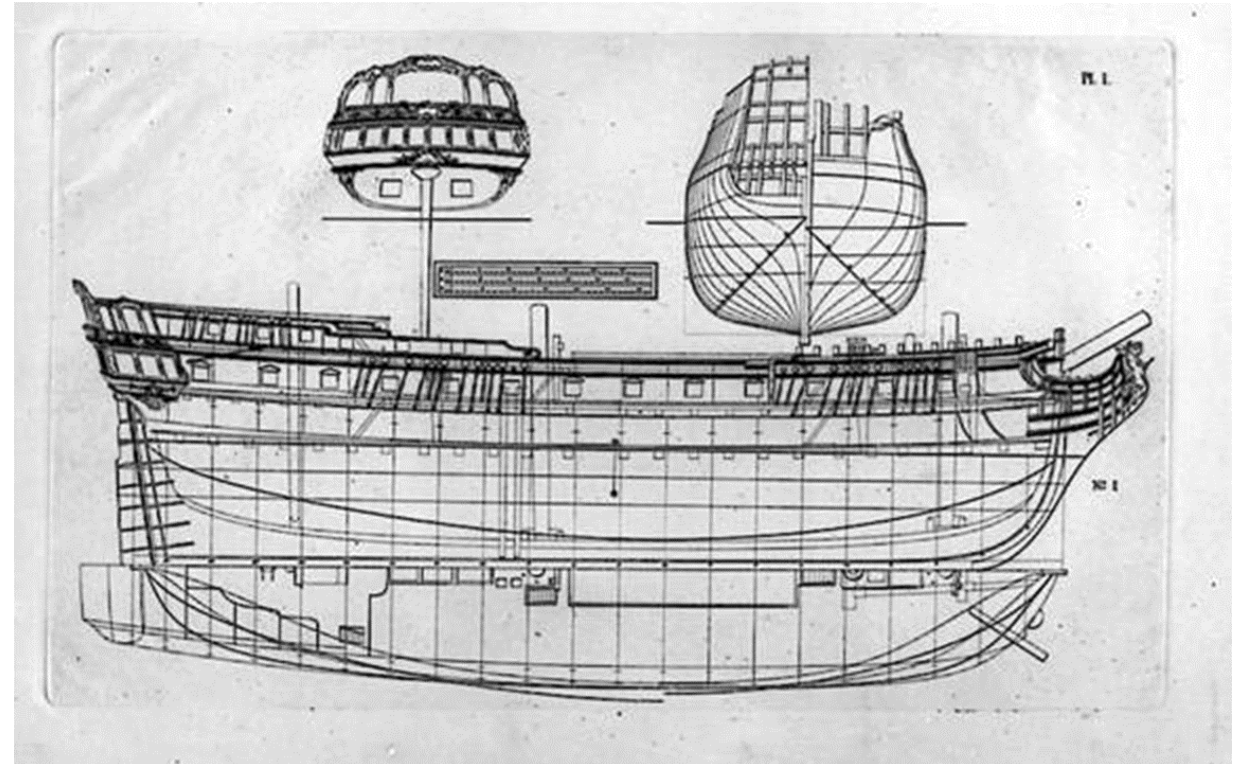
2. Partially geometric methods: Half models.



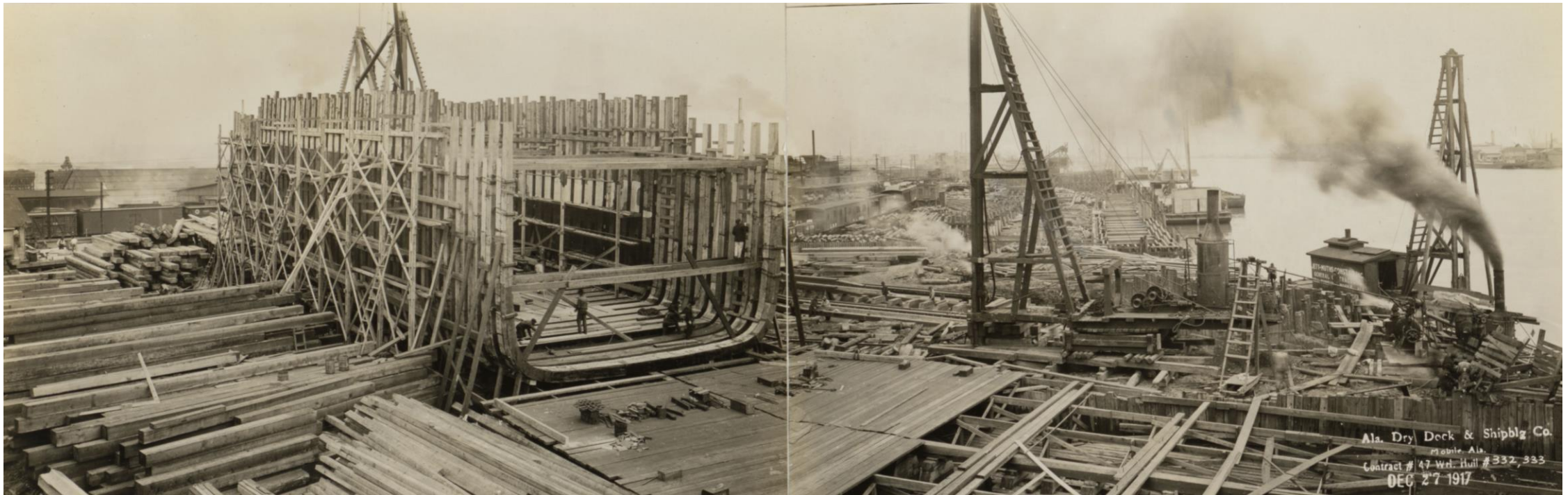
1.12 Like most U.S. marine architects before the 1880s, George Steers shaped the hull of a new vessel by carving a half model, from which he took off measurements for mold making. It is believed that he carved this model of *America* to send to Queen Victoria, but his premature death in 1856 prevented him from presenting it.

3. Geometric methods

Full projects. Theoretically “anyone” could build a ship from them.



End of Taxonomies



[https://commons.wikimedia.org/wiki/File:Ship_Building - Wooden - Alabama Drydock And Shipbuilding Co. - PICTURE REPORT OF PROGRESS on hulls numbers 332 and 333. - NARA - 55249753 \(page 2\).jpg](https://commons.wikimedia.org/wiki/File:Ship_Building_-_Wooden_-_Alabama_Drydock_And_Shipbuilding_Co._-PICTURE_REPORT_OF_PROGRESS_on_hulls_numbers_332_and_333.-NARA_-_55249753_(page_2).jpg)