

# Research and reconstruction of Wooden Ships



## 03.01 Lines Drawings III

Filipe Castro  
Last edited: June 2020

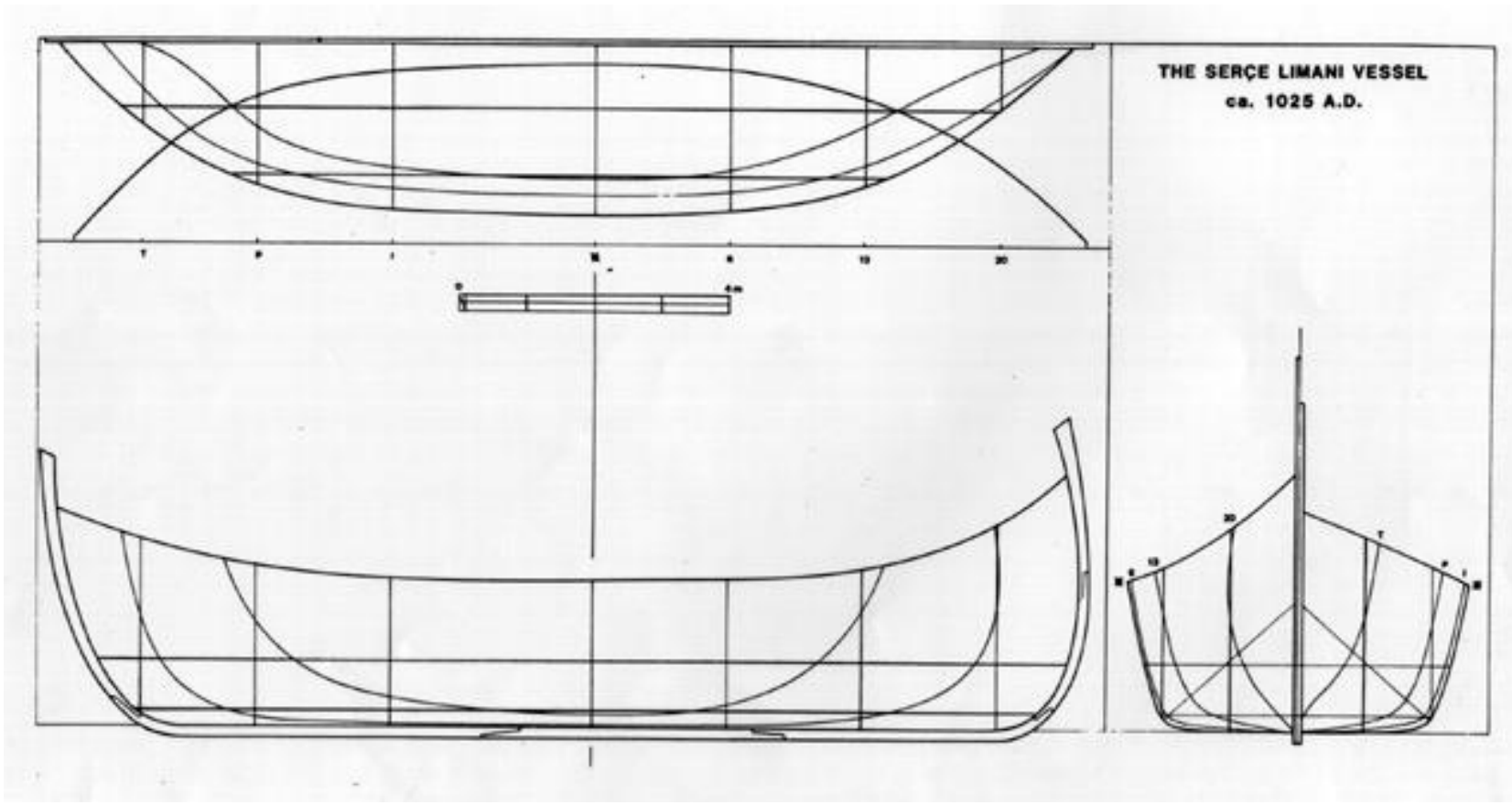
## Lines Drawings (continued)

**Lecture:** Diagonals, Rabbets, Scales, Captions, and Transoms.

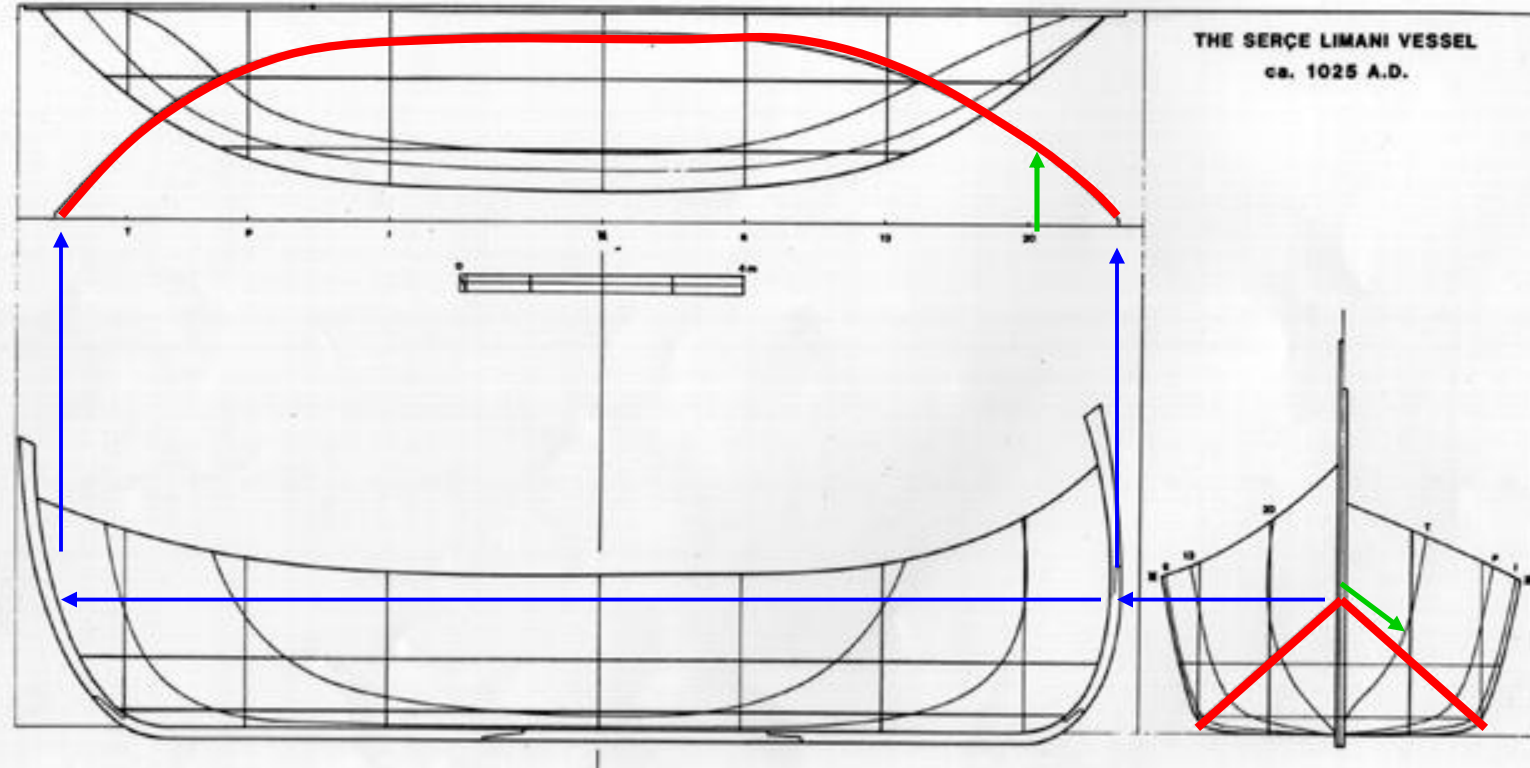
**Reading:** Steffy, *Wooden Ship Building*, pp. 8-20.

**Assignment:** Wrap up Project No. 1, begin Project No. 2 (draw the lines of a 20-meter vessel according to the requirements set out in the assignment sheet).

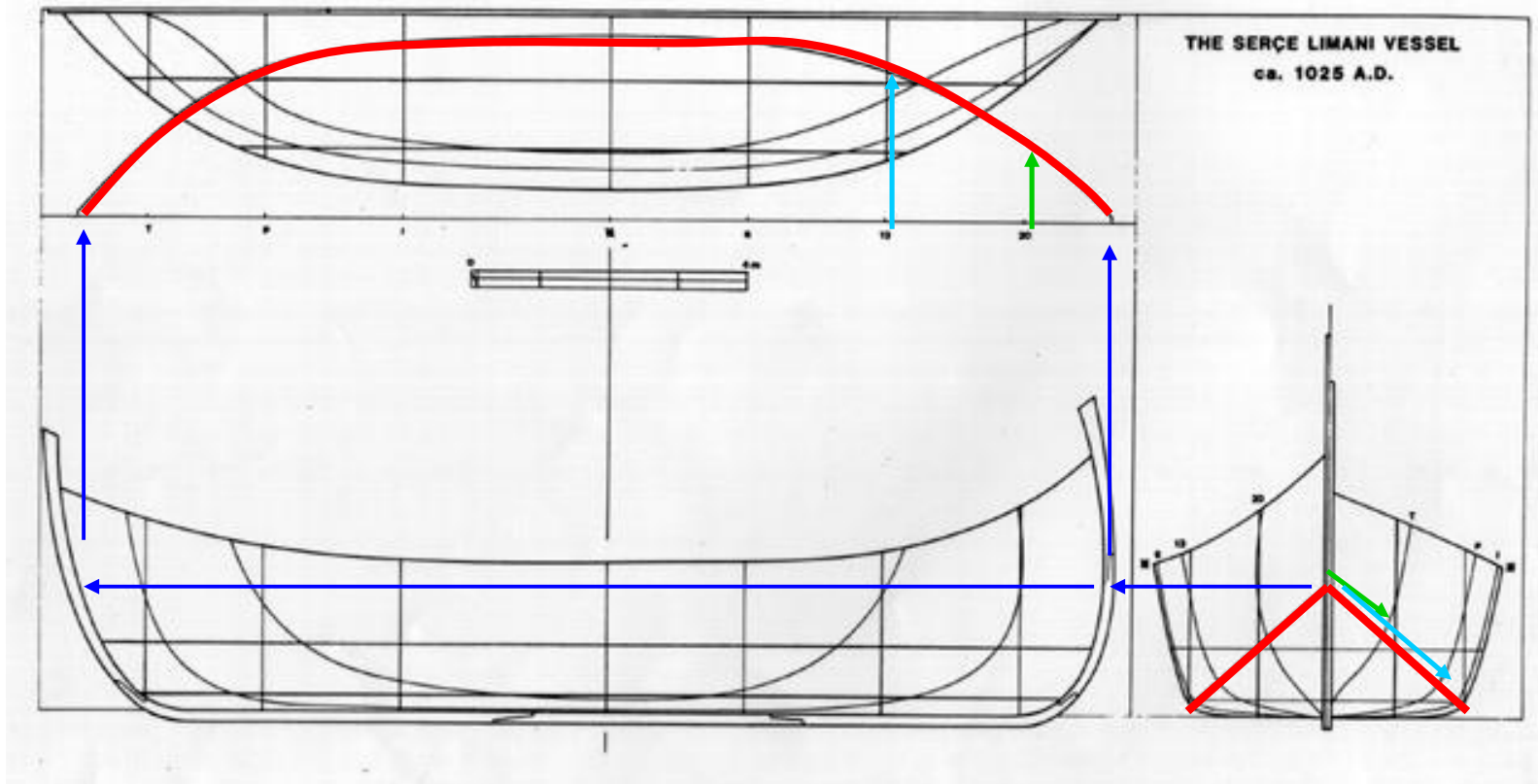
# Lines Drawings III



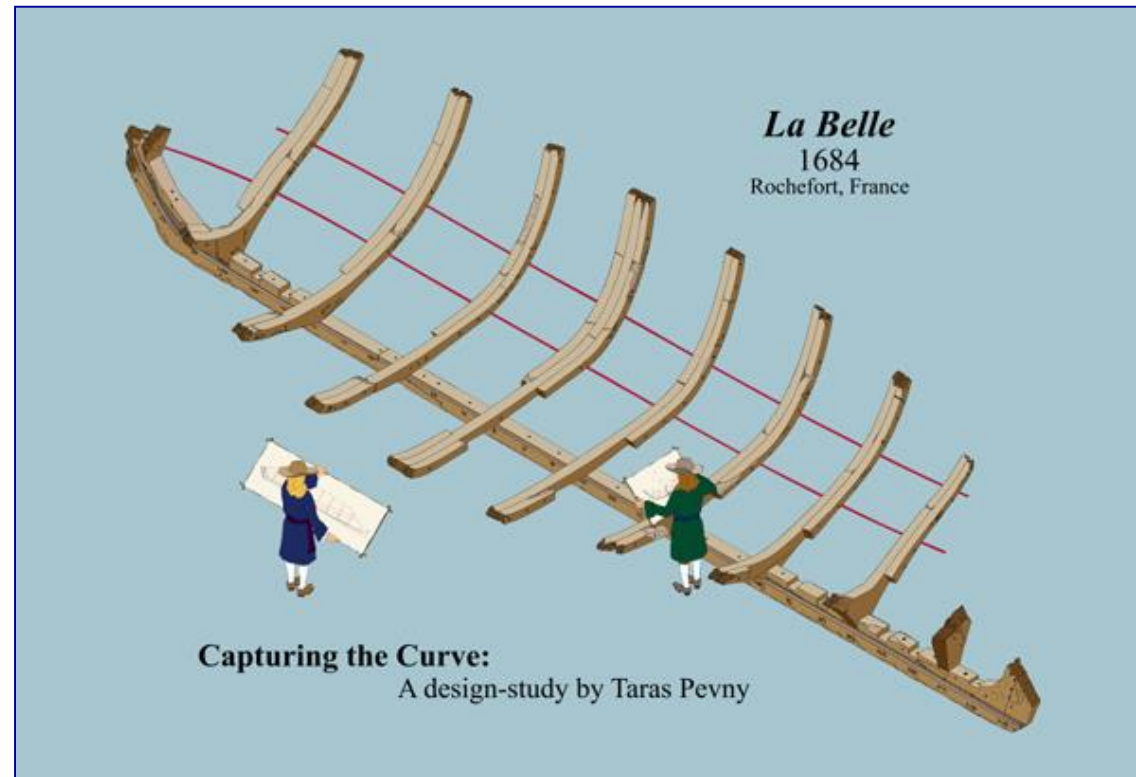
## Diagonals



## Diagonals

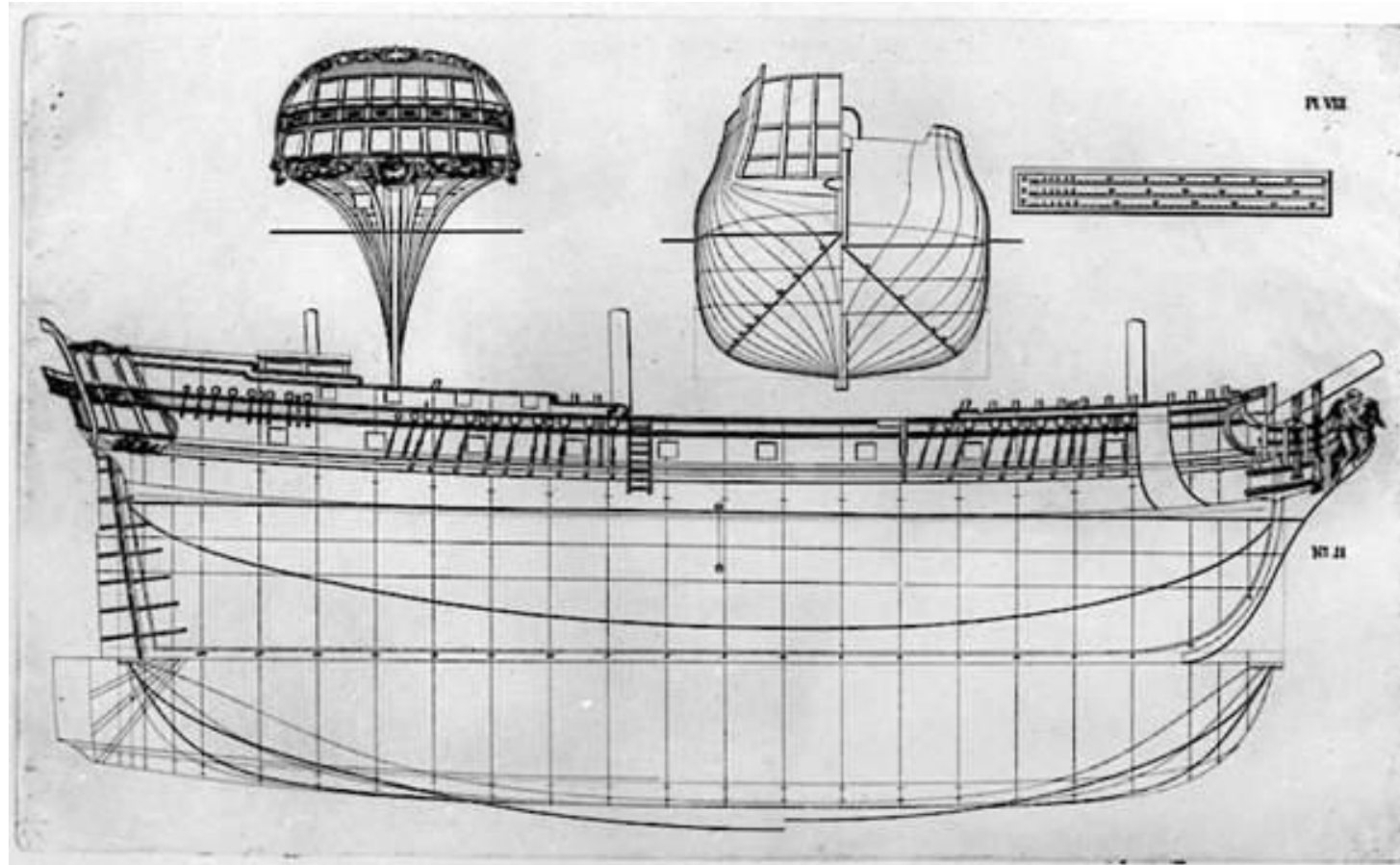


## Diagonals:



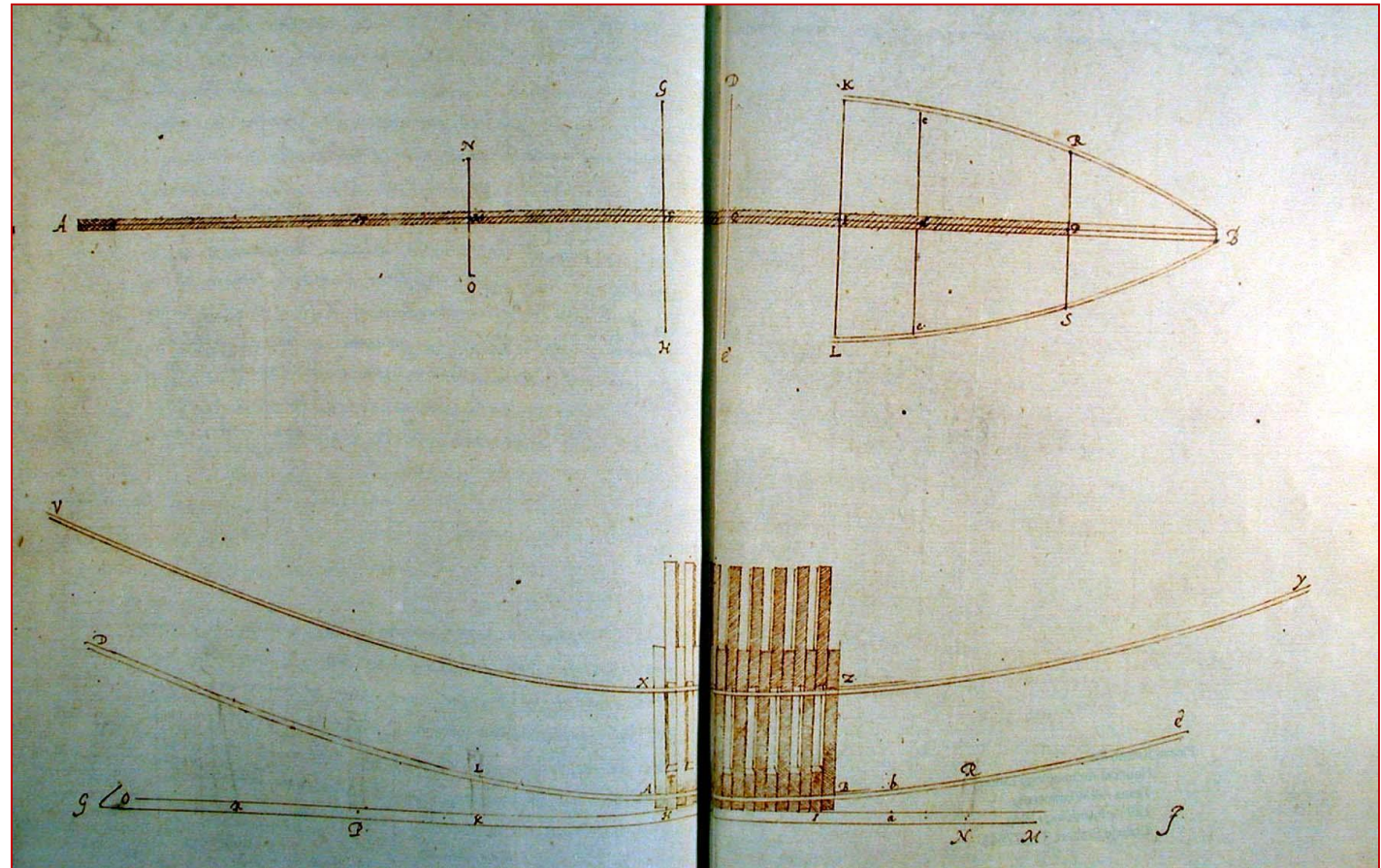
# Lines Drawings III

Diagonals:



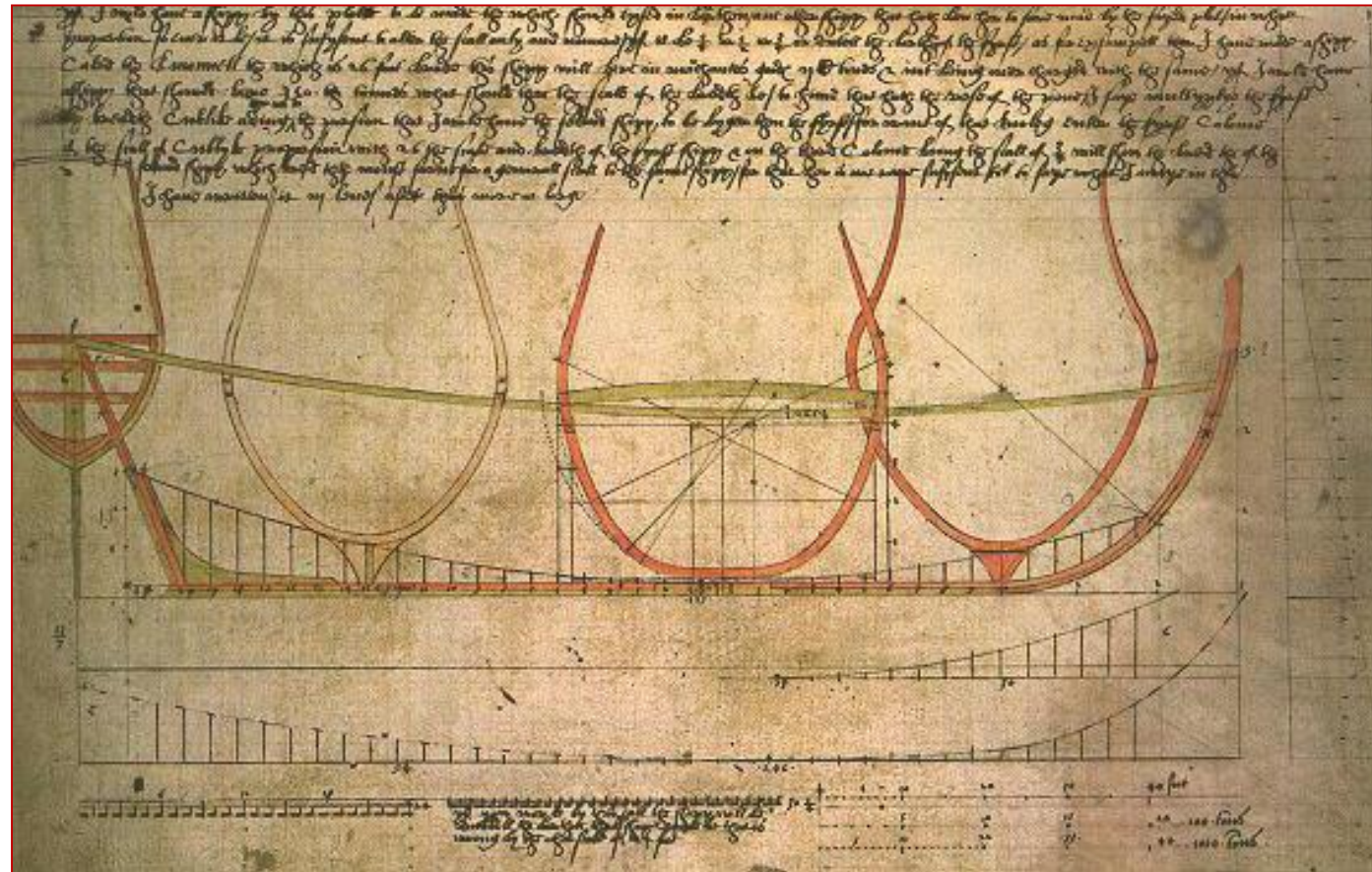
(Here Chapman actually draws 2 ≠ diagonals, fore and aft)

## Diagonals:

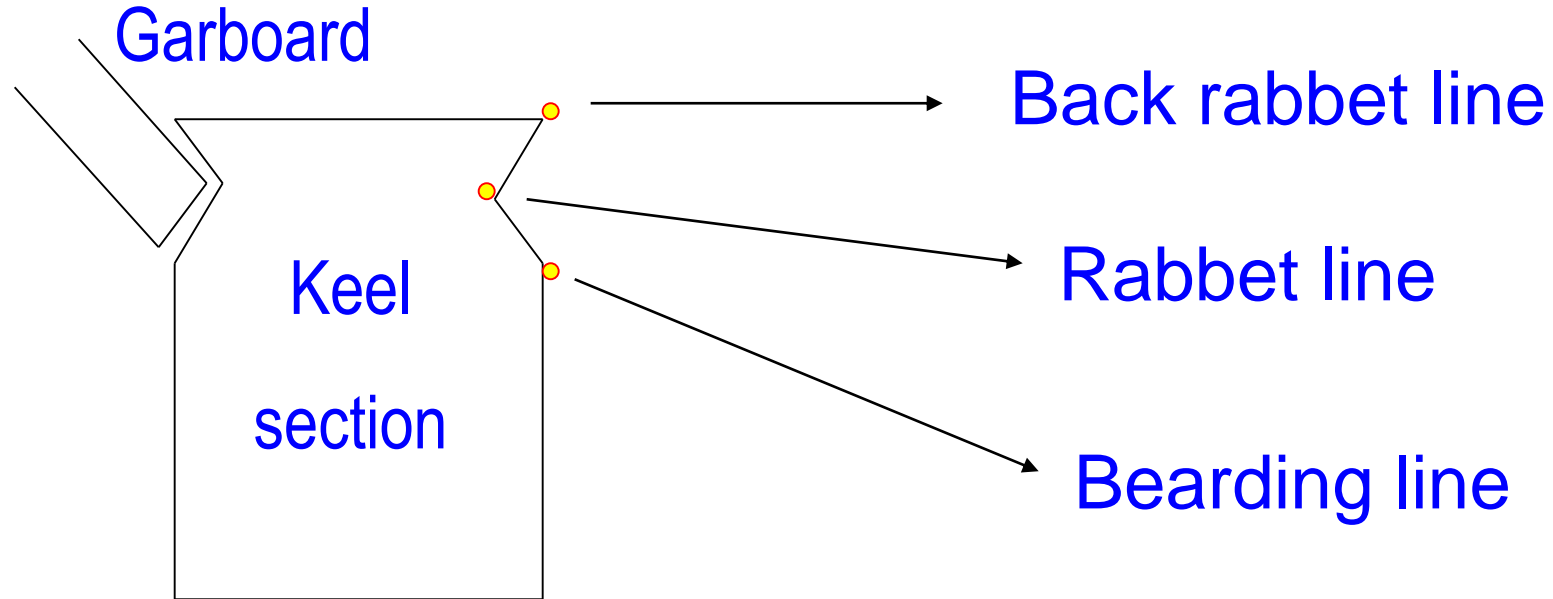




## Diagonals:

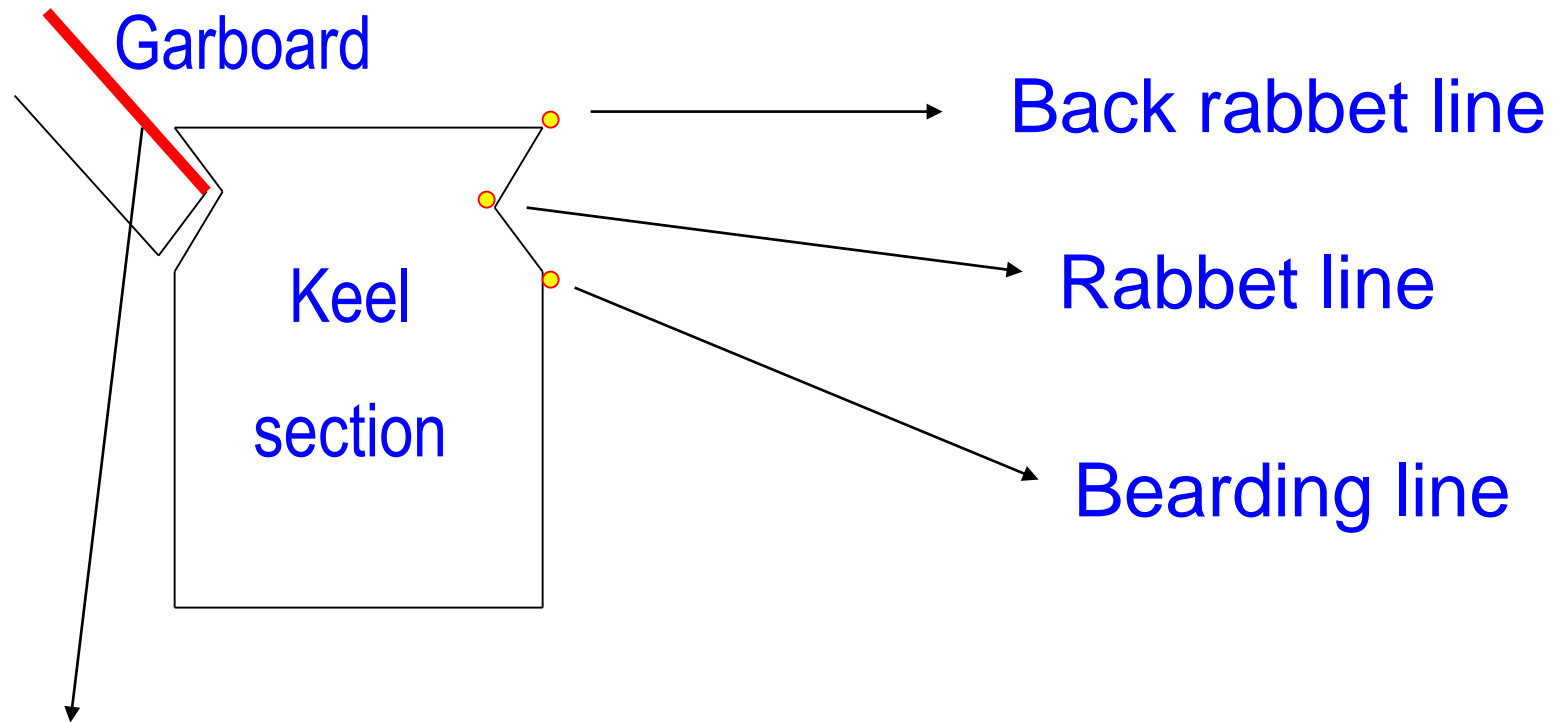


Keel: Bearding Line, Rabbet Line, Back Rabbet Line.



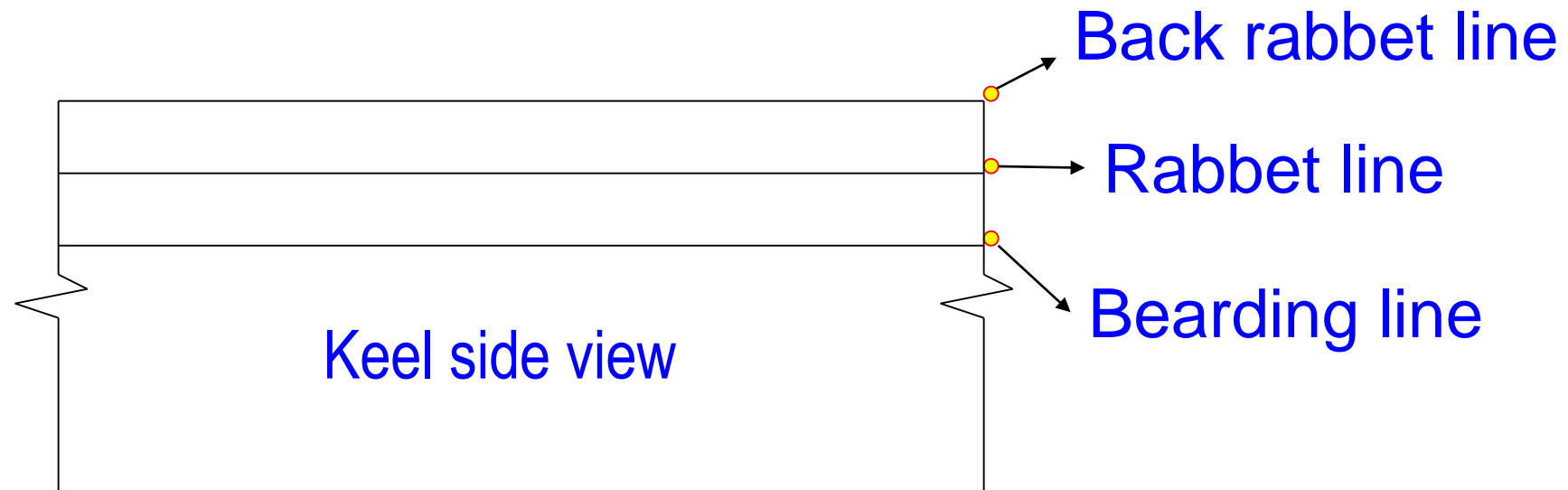
Lines drawings represent the inner surface of the planking.

Keel: Bearding Line, Rabbet Line, Back Rabbet Line.



Conventional surface represented in a lines drawing

Keel: Bearding Line, Rabbet Line, Back Rabbet Line.



**NOTICE:** When the rabbets move towards the posts these lines do not stay parallel.

## Scales.

All scales must be graphic (written scales do not copy into other sizes):

Ex.:

Scale 1:100;

Scale 1:12

Scale 1/100;

Scale 1/24

Scale 1cm to 1m.

Scale 1in. to 1 ft.

Scales.

We always use the International System:

- meters, centimeters, millimeters;
- kilos, metric tons;
- Scales  $1/5$ ,  $1/10$ ,  $1/20$ ,  $1/50$ ,  $1/100$

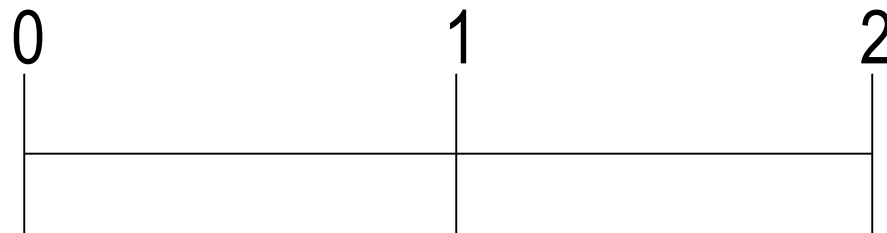
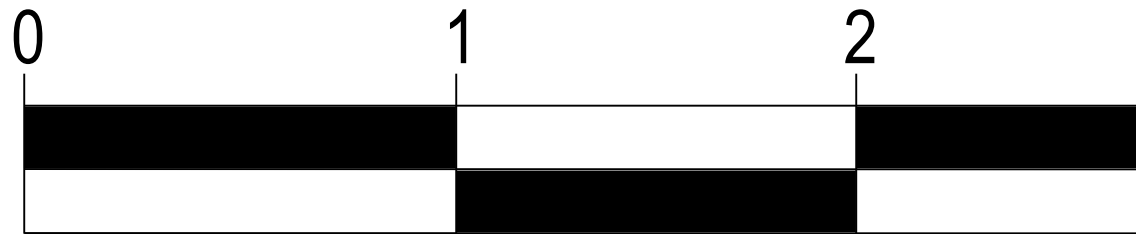
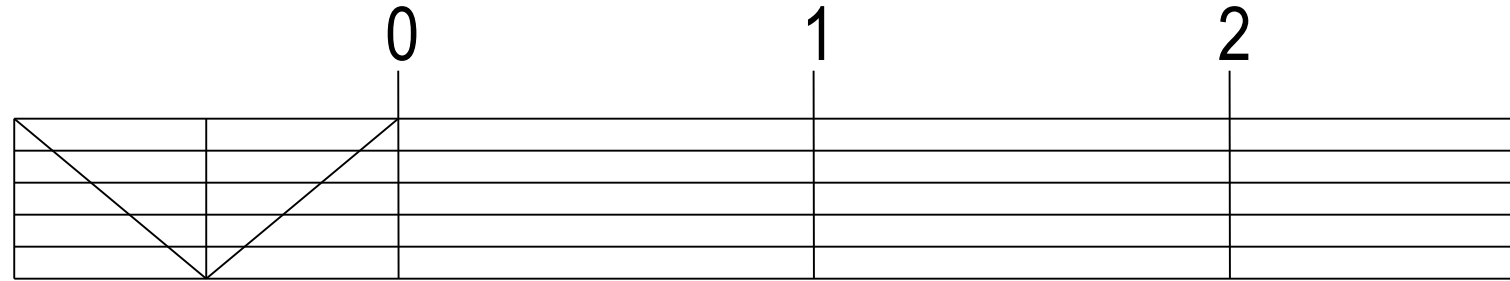
Scales.

We must also use the original units, when we know for sure which units were used by the shipwrights who built the ship we are attempting to reconstruct.

# Lines Drawings III

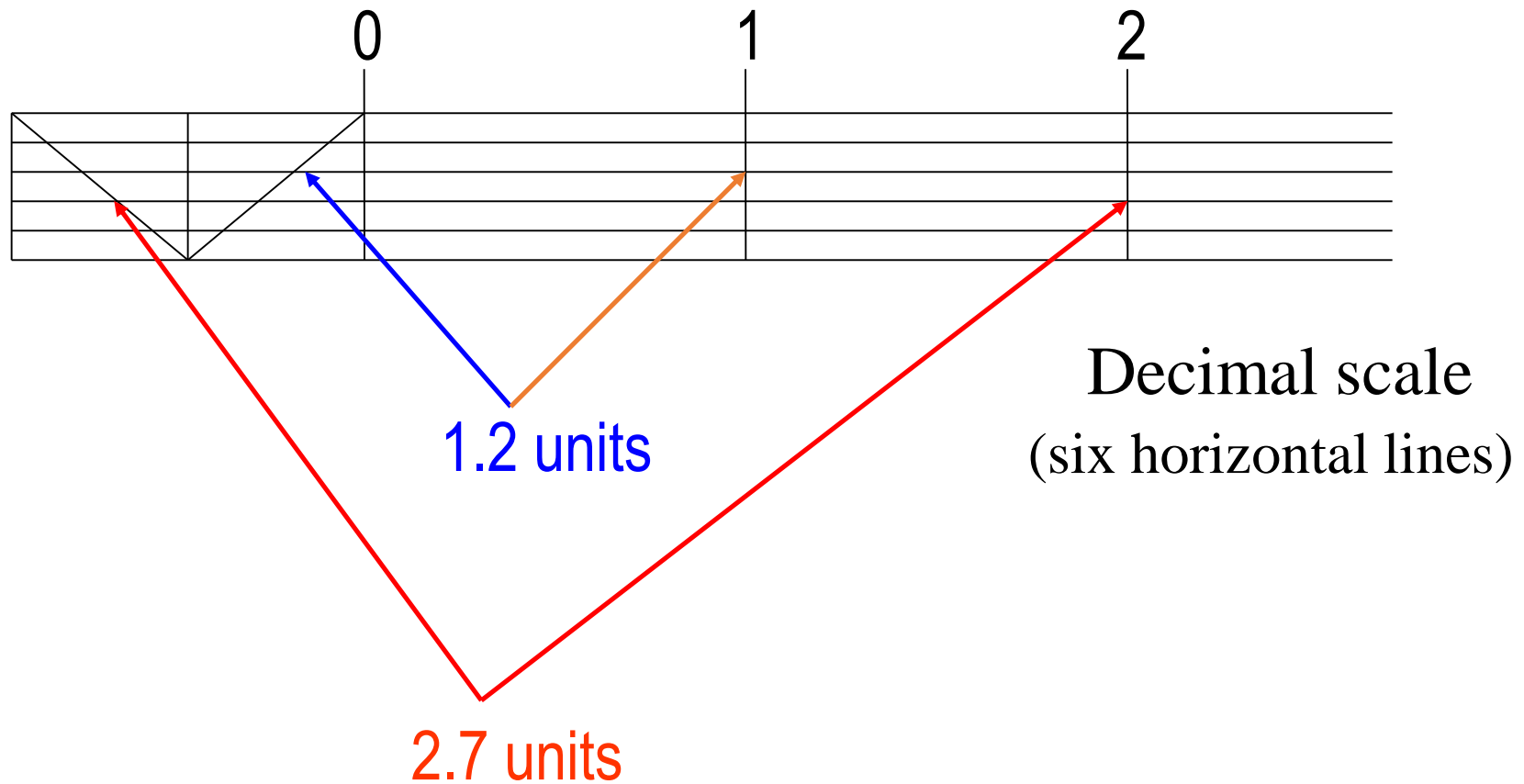


Scales.





Scales.



Drawings must  
have a border:

		Project No. 4 – Site Plan	Texas A&M University
		Room 105, NE corner	Fall 2008
Team: .....	Scale...		

## Captions.

Title of the project (or name of the ship);

Scale, Units;

Your name;

Course, year;

Other information about the ship, such as overall length, beam, or displacement.

## Captions:

Borders

Title

Text (content, size, format, bolds, italics, underline...)

Scale

Drawing Number

Author/Organization's logo or signature (and other credits)

Date

Place

Transoms.

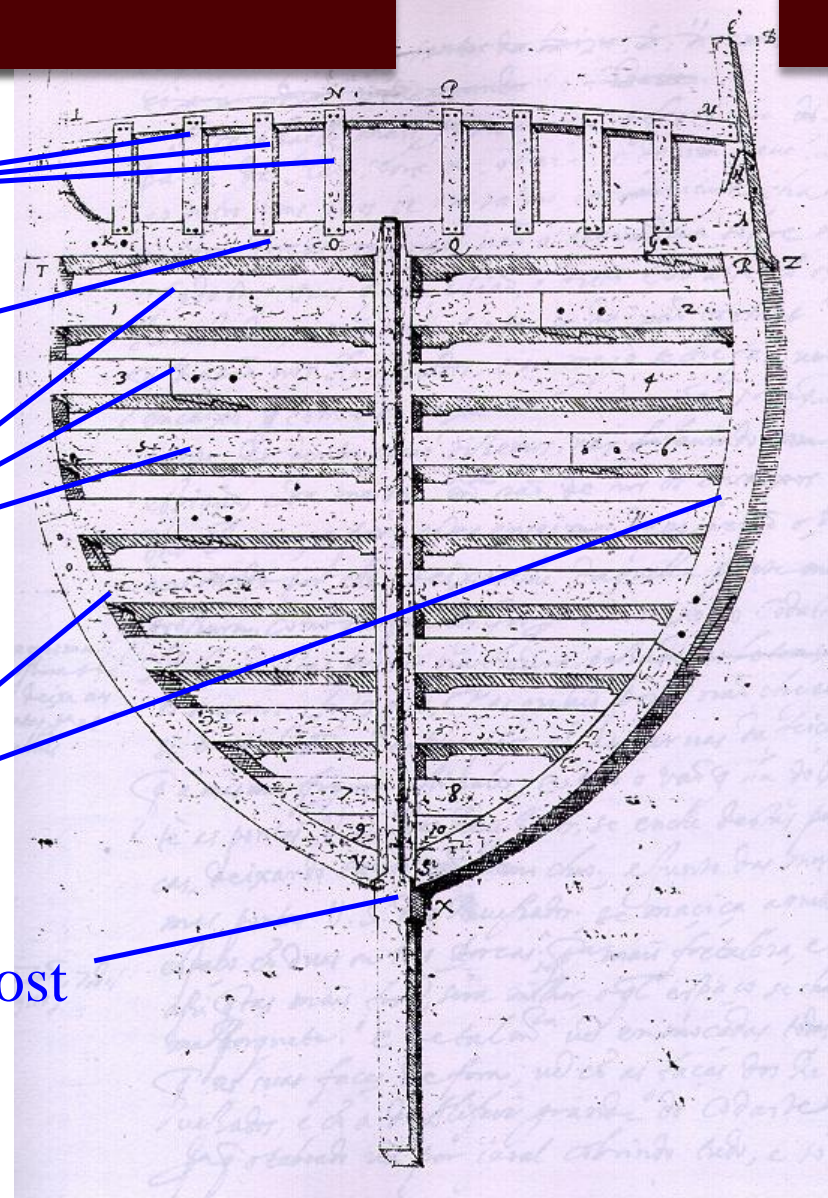
Counter timbers  
(normally arching out)

Wing transom

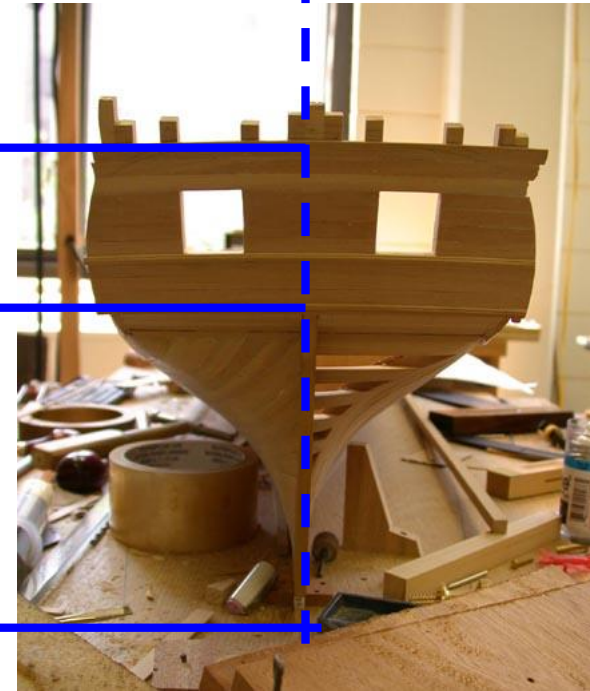
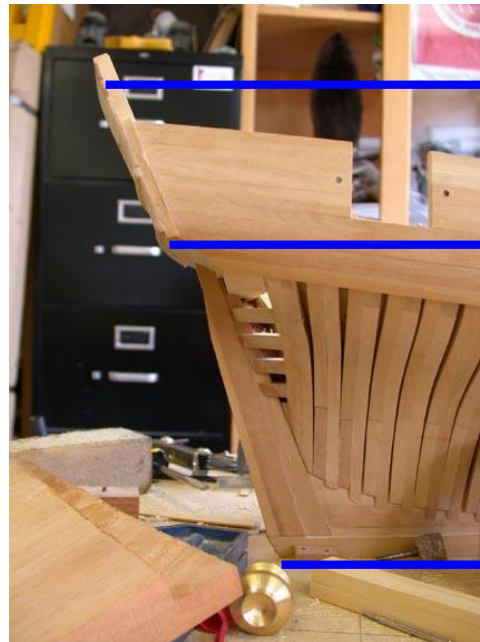
Filler transoms

Fashion pieces

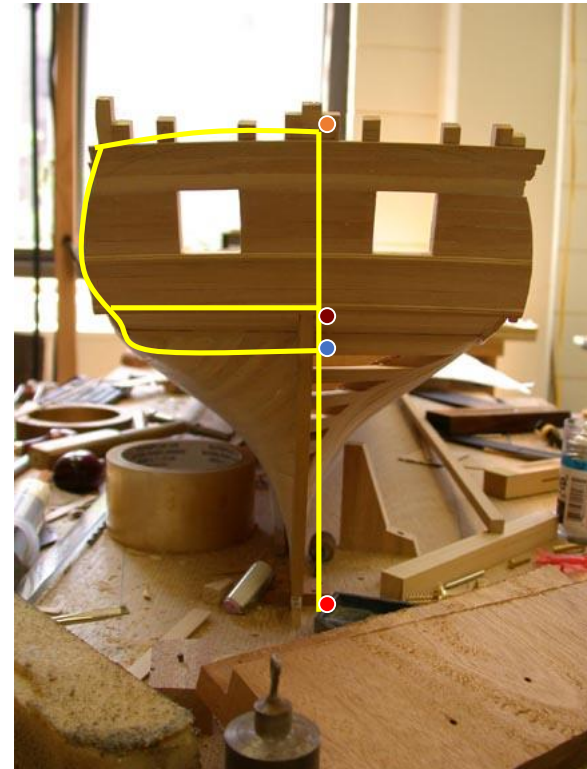
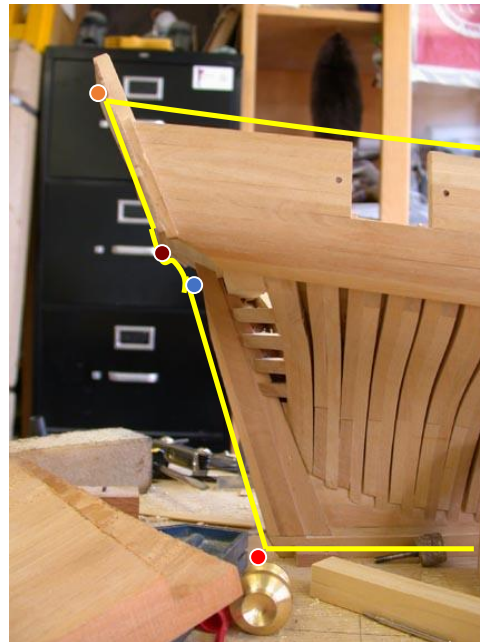
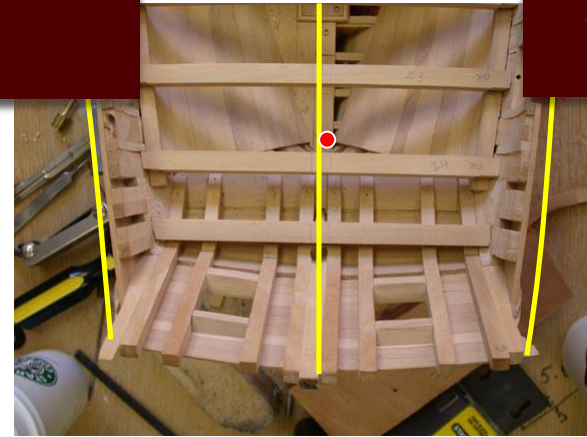
Sternpost



19<sup>th</sup> century: *Jefferson*.



Defining lines:



## Project Number 2: Slightly More Complicated Lines

Draw the lines of a vessel 20 meters long, six meters in beam, with a draft amidships of 2.2 meters. The vessel should have a transom and a rabbeted keel, stem, and sternpost. There should be a deck, and the location of its outboard edge should be indicated by a dashed line on all three views. Draw this vessel at scale 1:50, and provide a graphic scale of the proper form. The drawing will be graded on the basis of accuracy (agreement of points between views; each point out of agreement by more than 0.5 mm is 1.6 points off), completeness, fairness, and neatness. This drawing should be properly titled, dated, and signed.

The project is due at the beginning of class in Week 5.



## Next Class: Hull Analysis

**Lecture:** Tonnage, Displacement, and Performance.

## Next Class: Hull Analysis

**Readings:** Steffy, *Wooden Ship Building*, Appendices A and B, pp. 251-255.

Gilmer, Thomas C. and Johnson, Bruce. *Introduction to Naval Architecture*. Annapolis, MD: Naval Institute Press, 1982, pp. 37-59.

Chapelle, Howard. *The Search for Speed Under Sail*. New York: W. W. Norton & Co., 1967, pp. 3-51.

Brown, David K. "The Form and Speed of Sailing Warships," *The Mariner's Mirror*, Vol. 84, No. 3, (1998), pp. 298-307.

## Next Class: Hull Analysis

**Assignment:** Wrap up Project No. 1, begin Project No. 2 (draw the lines of a 20-meter vessel according to the requirements set out in the assignment sheet).

**Projects No. 1, 2, (& 3!) due by Week 5!**