

## History of the Submarine

### First Submarine Design

- Drafted by William Borne in 1578
- Based on ballast tanks
- Never got past the drawing stage

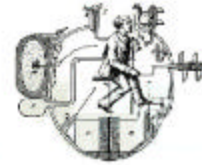
### First Oared Submersible

- Conceived and Built by Cornelis Drebbel
  - ◆ Dutch Inventor
  - ◆ Born in Alkmaar, Netherlands in 1572
- First to address the problem of air replenishment



### Human Powered Submarine

- Built by David Bushnell in 1776
  - ◆ Called the Turtle
  - ◆ First submarine to dive, surface and be used in Naval combat



### Holland VII and Holland VIII Submarines

- Introduced by John P. Holland in 1895
- Used petroleum engine for surface propulsion and electric engine for submerged operations
- Served as a blueprint for all the world's navies for submarine design



### French Submarine Aigette

- First submarine built with a diesel engine for surface propulsion and electric engine for submerged operations
- 1904