

**II. *What a Compleat Treatise of Navigation should contain. Drawn up in the Year 1685. by Sir William Petty late Fellow of the Royal Society.***

1. **W**hat *Arithmetick* in whole Numbers and Fractions, as also in *Decimals* and *Logarithmes*, is necessary for the same? And what *Books* are best for teaching so much thereof?
2. What *Vulgar Practical Mechanical Geometry* performable by the Scale and Compass is sufficient?
3. What *Trigonometry*, Right Lined, and Spherical will suffice?
4. How many Stars are to be known?
5. What *Instruments* are best for use at Sea, with the Construction of them, and the manner of using them?
6. The whole Skill of the *Magnet*, as to the directive Vertues thereof, and all the Accidents which may befall it.
7. The *Hydrography* of the Globe of the Earth, the Perspective of the Coasts, and the Description of the under-water-bottom of the Sea.
8. The knowledge of *Winds* and *Meteors*, so far as the same is attainable.
9. The History and Skill of all sorts of *Fishings*.
10. The Art of *Medicine* and *Chyrurgery*, peculiarly for the Sea.
11. The Common Laws of the *Admiralty*, and *Jurisdiction* of the Sea.
12. The several *Victuallings* and *Cloathings*, fit for Sea-men.
13. The whole Science of *Ebbing* and *Flowing*, as also of *Currents* and *Eddyes* at Sea.

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14. *Dromometry*, and the Measures of a Ships Motions at Sea.

15. The *Building* of *Ships* of all forts, with the several *Rigging* and *Sails* for each *Species*, and the *Use* of all the *Parts* and *Motions* of a *Ship*.

16. *Naval Oeconomy* according to several *Voyages* and *Countries*.

17. The *Art* of *Conting*, *Rowing* and *Sailing* of all the several forts of *Vessels*.

18. The *Gunnery*, *Fire-works* and other *Armatures* peculiar to *Sea* and *Sea-Fights*.

19. The *Art* of *Loading* and *Unloading* the Chief *Commodities*, to the best *Advantage*.

20. The *Art* of *Weighing* sunken *Ships* and *Goods*, as also of *diving* for sunken *Goods* in deep *Water*.

21. The *General Philosophy* of the *Motion* and *Figures* of the *Air*, the *Sea*, and of *Seasons*; of *Timber*, *Iron*, *Hemp*, *Tar*, *Brimstone*, *Tallow*, &c. and of their several *Uses* in *Naval Affairs*.

22. An *Account* of *Five* or *Six* of the best *Navies* of *Europe*, with that of the *Arcenals*, *Magazines*, *Docks*, *Tards*, &c.

23. An *Account* of all the *Shipping* able to cross the *Seas* belonging to each *Kingdom* and *State* of *Europe*.

24. An *Account* of all the chief *Commercial parts* of the *World*; with mention of what *Commodities* are originally carried from, and ultimately to any of them.

25. An *Account* of the Chief *Sea-Fights*, and all other *Naval Expeditions* and *Exploits*, relating to *War*, *Trade* or *Discovery*, which hath happened in this last *Century*.

26. Of the most advantageous use of *Telescopes* for several purposes at *Sea*.

27. Of the several *Depths* of the *Sea*, and *Heights* of the *Atmosphere*.

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28. The Art of making *Sea-Water fresh* and potable, and fit for all uses in Food and Physick at Sea.

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III. *A Letter from Sir Robert Redding, late Fellow of the R. S. concerning Pearl-Fishing in the North of Ireland; communicated to the Publisher by Dr. Lister. R. S. S.*

Dear SIR,

Being in the North in *August* last, and calling to remembrance your Desires to have some of the Muscle-shells sent you wherein the Pearls were found, I stayed behind my Company one day like an old Hound from following the Stag, and bestowed it in Enquiries from others, and some small Trials in the Rivers; but having by me neither Queries to direct my Search, nor Books to inform me what had been delivered by others on this Subject, I must needs fall short in those Points that are most curious and most wanting, and take notice only of what is too common and most known in the Natural History of this Shell-fish.

I have sent you four or five of the Shells, and a few of the Pearls, though clouded and little worth, taken out of the River near *Omagh* in the County of *Tyrone*, in which County are four Rivers abounding with these Muscles, all emptying themselves into *Lough foyle*, whereon stands the Town of *Derry*, and so into the Sea. There are also other Rivers in the County of *Donegall*, a River near *Dundalk*, the *Shure* running by *Waterford*, the *Lough* called *Lough-Lean* in *Kerry*, which afford the like Fish; and no doubt there be many more that I do