

NAVIGATION - ART OR SCIENCE

By Richard Sorokin

Somewhere about 5,000 to 6,000 years ago man set out in his crude boats to explore the world. Not only were his crafts flimsy and unreliable, but he had no ability or tools to navigate the waters. Not only didn't he know where he was going, he didn't even know where he was. Where was here for him? What concepts did he envision about his location in regard to the rest of his world? Yet these pioneers explored and settled most of the livable islands of the vast Pacific Ocean. Using the winds, stars, sun and currents and no instruments, maps or anything, they went exploring. Others conquered the Mediterranean. Some think they crossed the Atlantic from Africa and settled South America. Truly navigation by these pioneers was an art. Ask yourself if you would have the fortitude to emulate these explorers.

Today navigation is a science. We are loaded with maps and devices to tell us where we are and where we are going. What I'm going to do is list all that we have today to help us navigate going backward in time.

- GPS-Satellite navigation, push a button and there you are;
- Loran, radio navigation with special charts;
- Radio navigation using a directional antenna;
- Aids to navigation, light houses buoys, light ships etc.;
- Echo sounding, using the depth of the water to navigate;
- The lead line. Finding the bottom;
- Units of distance and depth: nautical mile, the fathom;
- The log, a device to measure speed and the knot;
- Gyro compass, free from disturbing forces of variation and deviation;
- Magnetic compass and its compass card;
- Sexton. To measure celestial angles;
- Sailing directions, these were highly prized written directions to sail;
- Distances and direction were given for many destinations;
- Modern maps and charts, Mercator projection;
- Clocks: To find longitude you must have an accurate clock;
- World maps of the middle ages;
- Ptolemy's map of the Earth; Though he missed the correct size of the planet it was the original conic projection, and on it he located some 8000 places by latitude and longitude. It was he who fixed the convention that the top of the map is north;
- Charts and sailing direction written several hundred years before Christ;
- Use of the stars, mainly the North Star to determine latitude. Early mariners used strings with knots in them;
- Next came the astrolabe to measure the angle;
- Wind direction, currents and primitive star sights.

Thus navigation grew from an art to a science.