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SECRET SOCIETIES & PRIMITIVE NAVIGATORS OF THE SOUTH PACIFIC

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I will first deal with Secret Societies. It has often been said that Freemasonry is a Secret Society, and our favorite reply is "Masonry is a Society with secrets." We are aware that at one time in England all secret societies were outlawed - well, almost all. Two Acts of Parliament were passed in Great Britain which, in part, concerned the Craft. The first, known officially as 39 George III, indicated some concern for possible conspiracies with the growing power of Napoleon. It starts:

> "Whereas a traitorous Conspiracy has long been carried on in conjunction with the Persons from Time to Time exercising the Powers of Government in France, to overturn the Laws, Constitution and Government, and every existing Establishment 1 Civil, and Ecclesiastical, both in Great Britain and Ireland, and to dissolve the connection between the Two Kingdoms, so necessary to the Security and Prosperity of both "

It went on to declare many societies which had taken 'unlawful oaths' as being criminal, and all such societies were to be suppressed and prohibited. They included Oddfellows Lodges and other seemingly innocuous organizations. However, Sec.V of the Act specifically exempted Lodges of Freemasons: "...Whose meetings whereof have been in great measure directed to charitable purposes."

The second Act of Parliament, known as 57 George III went even further in suppressing various assemblies. The figures 39 and 57 were the years which George III reigned, they were used instead of the actual Anne Domini, which would be 1799 for the first and 1_817 for the second. One of the odd results of these laws was that present Lodges could carry on, but new Lodges could not be instituted. This was met by allowing new Lodges to use the name and number of dormant lodges. Eventually, as is inevitable to little corporals, Napoleon died, as did another such, one and a half centuries later.

With the easing of the possibility of subversive attitudes, so did the laws against secret societies. In fact many sorts of societies, more or less secret, were founded in the United Kingdom and the U.S.A. At the opening of the 20th Century there were an estimated 600 secret societies said to exist in the U.S.A. One wonders just how this information was obtained.

On May 5th 1899, a Paper was presented at Quatuor Coronati Lodge in London entitled "The Secret Tribal Societies of West Africa". Bro. Fitz-Gerald Marriott then gave a lengthy and most interesting account of many secret societies amongst the indigenous population of West Africa. He spoke of 'Law-giving and 'Mystically Religious' societies, of primitive customs, of Rites of Passage, and all such. At no time did he suggest any connection with Freemasonry. In VoL XII A.Q.C., A.G. Speth, the noted Masonic scholar, and editor of the Proceedings of the Lodge, observed; "As a society devoted to the study of Freemasonry, no account of a secret society can be out of place in our Proceedings."

It is interesting to note the effect of Bro. Marriott's Paper, for Bro. E.J. Castle, who was installed by that noted author Robert Freke Gould as Master in 1902 of Quatuor Coronati Lodge, gave his inaugural address entitled "Secret Societies". It was a popular subject for several years.

And so I come to the theme of my Paper - A Secret Society of Navigators in the islands of the South Pacific, or Oceania. Secret in the fact that the art was taught to only a select few - usually a relative - and their apprenticeship was long and difficult. There is a facetious definition; Navigation is the Art of Scientific Approximation; and this rather fits the techniques employed.

I shall not touch any traditional practices of dead-reckoning, celestial navigation, or radio and radar usage. These very modern electronic devices have changed Navigation from an Art to a Science.

The Phoenicians and Mediterranean sailors made long and daring voyages; Arab and Indian seamen on the rim of the Indian Ocean sailed far beyond sight of land. At a later date the Vikings rowed and sailed from their Northern fastness to Britain, Iceland, Greenland and America. They each developed navigational skills

of their own; at a later date crude instruments were invented such as the astrolabe and cross-staff to measure angles between a celestial object and the horizon, thus allowing one to obtain latitude.

In Europe, marine charts were developed and of particular importance to navigators, Mercator invented his particular projection of maps and charts. Today we have an infinite variety of such charts emphasizing various aspects such as ocean currents, prevailing winds, temperature, radar grids, isogonal lines and many others.

The geographical situation in Oceania was very different from Europe. There was an enormous expanse of empty ocean, numerous small islands - some very isolated indeed, seasonal winds, monsoons, ocean currents, and equatorial conditions conducive to stellar observation.

There are three traditional forms of navigation:
1. Dead reckoning; Position of craft deduced from knowledge of wind, speed and drift
2. Pilot navigation. Headland to headland.
3. Celestial navigation. Sun moon and stars.

Dead reckoning - corrupted from 'deduced' - is empirical knowledge of one's target, or island, or port; the distance and direction it lies; the state, direction and speed of wind, tide, and current; speed and leeway of ones boat, which includes complete familiarity of your craft. Once out of sight of land the navigator is on his own and must make use of every clue he can observe, in the absence of which he steers by dead-reckoning.

Pilot navigation is simply steering by sight. It requires a thorough knowledge of local geography, tides, wind and current. Once away from a known area it's a matter of guessing, good seamanship, and lots of luck.

Celestial navigation is based on a sound knowledge of astronomy. It is a surprisingly ancient technique, particularly the use of Polaris to give one a pretty accurate knowledge of latitude. From crude early instruments emerged the quadrant and the sextant. This instrument gives degrees and minutes of arc between the horizon and the celestial object. The sun at noon is the traditional time for observation at sea, but today a sight can be taken at almost any time. Air navigators use an artificial horizon which is simply a small bubble through which the star is sighted.

After the sight is taken and all the mathematics are worked out, it gives a single line on a chart somewhere along which you are. It takes two or more celestial shots to bisect the position line to obtain a more or less accurate fix.

While latitude could be established fairly easily, longitude was the greatest problem of all. The British Navy offered a prize of £10,000 for the person who could solve this problem, and it was won by the man who developed the chronometer. The establishment of Greenwich meridian and the close relation of time to longitude paved the way for charts of ever increasing accuracy.

The north-pointing magnetic needle slowly evolved into the marine compass. We first read about it in China during the eleventh century. It was not appreciated for centuries that the needle pointed to magnetic north, which varies over the earth. Much later developments brought the gyro compass, and in modern times a combination of magnetic and gyroscope gives us the type of compass used today.

Polynesian, Melanesian and Micronesian navigation developed along fairly similar lines, with possibly a different stress. Indonesian navigation was not of the same complexity but archeological evidence suggests that the first blue-water sailors who went on exploratory voyages were Indonesians.

The open Pacific with many small islands, predictable winds, persistent swell patterns, and a long established tradition of successful navigation gave rise to a totally different approach to deepwater sailing than that of the northern hemisphere. The great age of discovery and development of a unique and traditional concept of island navigation occurred about 2500 years ago.

Navigators were not numerous. They started training as young boys, and their esoteric art took many years of memorizing the names of navigational stars, their azimuth at rising and setting, specific directional stars for various islands, progress of stars across the sky as the season changes, how to orient themselves by Polaris, the South Cross and overhead stars. Direct observation was used as no navigational instruments have ever been recorded. Like many artisans in primitive societies, the craft secrets were passed along from father to son. The Chief of the community was often The Navigator.

As with all marine people their boats developed in accordance with their resources and with the problems to be overcome; length of voyage, size of seas, load, etc. The characteristic canoe throughout Oceania is the catamaran, the outrigger, and the double canoe. The boat builders were master craftsmen, and early European explorers marvelled at the speed and seaworthiness of the large ocean-going canoes. Capt James Cooks' boat the Endeavour could make 5 knots in a favorable wind, yet he writes of native canoes sailing twice as fast.

I suspect the highly skilled boatbuilders of the South Pacific had a craft guild of their own. The life of most people in Oceania revolved around the sea and canoes. Robert Louis Stevenson became completely immersed in the Polynesian oceanic culture when he lived in Samoa. His beautiful Requim illustrates the importance of stars and sea in that island world,

> Under the wide and starry sky
> Dig the grave and let me lie
> Glad did I live and gladly die,
> And I laid me down with a will.
>
> This be the verse you grave for me
> Here he lies where he longed to be,
> Home is the sailor, home from the sea,
> And the hunter home from the hill

The object of celestial knowledge was to give an accurate direction for the island goal. As a star rose or set into the sea it gave precise directional information A star's azimuth was the road map of the navigator. Working out the star courses from Island A to B or C or D were formulated in an empirical manner many generations ago and passed along orally to future navigators. For daytime steering, the sun was naturally the main reference its rising and setting azimuth being related to star points.

Dead reckoning is basic to all navigation systems including the Polynesian. If there were no winds or tides, then navigation would be rather simple. But wind and wave add tremendous complexities to any journey, and it is the pragmatic approach to each voyage than makes this type of navigation an art.

Steady seasonal winds generate ocean swells; these long low wave patterns travel across the seas for hundreds of miles. Navigationally, a swell denoted waves which don't break, that travel beyond the wind systems that generate them. Waves are produced by contemporary winds, are usually short, steep and break at the crest. The trade-winds and monsoons generate swells from the E, the N.E. or S.E. (depending somewhat on latitude) and the direction is persistent enough to use swells as a major guide in navigating. Swells can be felt as well as seen, so that even on the darkest night a course can be held accurately by this means alone. The Marshall Islanders consider navigation by swell patterns superimposed on each other; nevertheless a navigator can feel or see his own guiding swell pattern through all sorts of interference.

When I say the swell pattern can be felt by the navigator and direction maintained, it is literally and actually true. Navigators often set or lay on the bottom of the canoe and concentrate on their most sensitive part - their testicles. With admirable aplomb I shall refrain from comment.

In the open Pacific the direction of swells are precise, but nearing an island there are reflection and refraction patterns which arc meaningful An island will return or reflect a swell back some 15 miles or so. On either side of the island the swell pattern becomes distorted, directional, and identifiable. All these complicated motions of water are clues to the navigator which he takes advantage of - but only after long training and experience.

Today, we have charts of oceanic circulation showing direction of drift, speed, major and minor current boundaries, seasonal changes, temperature and salinity. A great deal of this information was known to the indigenous people in Oceania at a local level.

The winds which created the swells were fairly constant though seasonal, such as the monsoons. In some areas wind direction was reliable enough to use as a guide. Some of the islanders used a 'wind compass' with fair success. This does not mean the winds never changed, but often the changes or errors in direction canceled each other out.

Another helpful clue to the navigator was cloud formation. Over the open ocean clouds behave in a slightly different manner over an island than over the sea. In normal weather clouds tend to pile up in cumulous formation over a land mass, however small. From 15 to 20 miles away, these slight variations of behaviour,

movement and colour can be observed. In stormy weather, the constantly changing cloud formations can be noted, with clues in the overall pattern indicating land - such as a slight clearing of storm clouds.

At night there is usually a tiny difference in shade or reflection in low-lying clouds. These minute differences can not be seen with a casual look, but might take an Islander up to an hour of intense study before he would say that in such a direction is an island.

Tropic aquatic birds fly out from their island homes every morning to fish, returning to their nests in the evening in a bee-line. The pelagic species like the albatross fly immense distances from shore and have no navigational significance. Terns and noddies have a range of 20 to 25 miles from shore and as both species are plentiful, they are extremely useful to the navigator. Unfortunately direction can only be ascertained on their flight out in the morning and on their return in the evening. Further out are the boobies and frigate birds (sometimes called the man-'o-war bird). These two species are usually seen together, the boobies catch the fish and the frigate bird forces them to drop their catch which he skillfully grabs. Both birds range out to 30 or 40 miles from shore. The man-'o-war bird has the greatest wing spread in proportion to body weight than any other bird. It cannot swim - not even rest on the water. Its scientific name is Frigita magnifieens - she was beautiful, but frigid.

Another secondary guide to direction of land is a purely tropical phenomena and completely unknown to European navigators, it is called deep phosphorescence flashes. Surface luminescence is probably well known to local sailors, but deep phosphorescence is from 6 to 12 feet below the surface and visible in the form of flashes, sort of like slow lightning. This phenomena, the cause of which is not known, is only visible occasionally. The flashes dart to and fro in a direct bearing with land, and are reported to be visible as far as 80 miles away. Strangely enough, the flashes disappear by the time the island is in sight. When is an island in sight? A typical low-lying island can be seen from the deck of a canoe about 10 miles away.

On some voyages a reef, meaning a submerged rise of the ocean floor, is an excellent guide because of the changing colour of the water. It becomes one of the few signposts of the open ocean. These reefs are invariably heavily populated with fish and other marine life, and sometimes with active bird life.

Certain areas are the meeting place of different ocean currents and are easily seen by choppy wave formations, as well as all manner of drift objects. Generations of observation have used these areas as fairly reliable clues to direction of land.

A voyage to a small island several hundred miles away required a great deal of skill and the intense concentration of the navigator for long hours. Fortunately the islands were fonned in groups and in the largest of these, distinct archipelagos. Assuming a sight range of about 15 or 20 miles out to sea, a lot of islands would overlap. A navigator made use of this fact by heading for the centre of a group of islands. So under some conditions about the only way a navigator could miss, was to pass through the islands at night. He solved this by heaving-to during the night if there was any danger of missing.

One highly involved technique not practiced by European navigators was the mental concept of dividing a voyage into sections by the progressively changing bearings of a reference island It is a difficult abstract idea for us to visualize, but a present-day navigator can appreciate the concept of the eternal triangle by using a third reference point (l.home; 2. target; 3 reference point) to picture mentally his present position. Known as the Etak system it is impossible to appreciate fully unless one actually sailed and could visualize the pragmatic results.

There are several more minor guides and aides such as the overhead star guide; lighting fires at night either for back-bearings or for landfall; traveling line abreast instead of line astern, and possibly several others. But enough has been given to indicate the marvelous and highly complex system worked out by primitive mariners in Oceania.

Of course, if everything else failed and the crew was completely lost (a situation appreciated by every professional navigator) the last resort was Magic. Every navigator who ever played his last card had his own brand of magic.

To summarize: A small and very select group of men (and a few women) apprenticed for many years to learn a craft which had practical and beneficial results. The lessons taught were handed down by word of mouth through the generations. There is no evidence of secret initiation ceremonies, but as far as I know, all tribal cultures had some form or other to celebrate the Rites of Passage -- Initiation into Manhood.

For anyone interested in references on this subject.

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ASIDES

Page 5 Col 2 Line 43 - "crude instruments" - R.C.A.F. sight log book on front cover shows a medieval navigator or astronomer using a cross-staff. Also, the encouraging proverb - "Man is not lost"

Page 6 Col 2 Line 2 - The estimated date of 2500 years ago is based on difference between traditional azimuth steering points and present day directions; the consistent error being explained by the precession of the equinox..

Page 7 Col 2 Line.28 - Canoes were the most important artifact of Polynesian culture. At the Capt. Cook Conference at S. F. U. 5 years ago the 2 delegates from Hawaii stressed the extreme importance of the large ocean-going canoe.

Page 7 Col. 1 Line 22 - Aerial photographs of complex wave patterns prove the existence of reflected swells from an island.

Page 7 Col. 1 Line 40 - The behaviour of gathering clouds is beautifully illustrated by the tai chi form.

Page 7 Col. 2 Line 51 - This could be called mental spherical trig. Manual of Navigation: Where art is concerned it may be said that practice makes perfect and this is largely true of navigation. There is, however an important difference, because perfection in navigation can only be achieved by constant practice. The frame of mind that may be gradually acquired by a Navigator is unfortunately quickly lost through lack of exercise.

(The opinions expressed in the preceding paper are those of the Author and do not necessarily reflect those of the Victoria Lodge of Education and Research.)

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