If modern engineers had to design the perfect observation site to see the stars, it certainly would closely resemble Mauna Kea. No wonder the ancient Kāhuna were experts in astronomy. Nowadays astronomy seems to have little to do with every day life, at least nothing that has anything to do with deep space. During the times of the Kāhuna there was a completely different situation.

In ancient Hawai‘i astronomy mainly was astrometry – the precise measurement of positions of celestial bodies like hōkū lewa (planets), koli (meteors) and hōkū welowelo (comets). High skills had to be developed by the Kāhuna to become perfect in this difficult task, with only stone age tools at hand. The precise knowledge of star positions and their change during the year was essential for Hawaiian seafarers navigating across the vast Pacific Ocean, regularly reaching destinations as distant as Tahiti, Samoa and Java. Our knowledge about the Kilo Hōkū (Astronomer Kahuna), comes mainly from ancient chants, one of which reads like this:

Innumerable are the stars
The large stars
The small stars
The red stars of Kane, O infinite space
The great moon of Kane
The great sun of Kane
Moving, floating
Set moving about in the great space of Kane
The great earth of Kane
The rain encircled earth of Kane
The earth that Kane set in motion
Moving are the stars, moving is the moon
Moving is the great earth of Kane
Today only few stars and formations still can be named by their traditional Hawaiian names. Of the several thousand stars that can be seen from Hawai‘i, only the names of approximately 120 have been preserved. Gemini for example was called Kamahana (The Twins) and the Big Dipper's name was Nā Hiku (The seven).

The Kāhuna astronomers had reached approximately the same standard as their European colleagues before Galileo invented the telescope. There is no doubt the most skilled astronomers were the Kāhuna who were navigators, who had to virtually become human computers to master their task. By the time a Kāhuna Navigator completed his long years of study, he had to be capable of recalling at any time the setting and rising points of at least 120 stars as they changed throughout the year. They also learned the directions of foreign lands from stone alignments as well as the seas, weather and winds found along the way.

ANCIENT HAWAIIANS & TAHIITIANS LOVED TO MEASURE

In Tahiti, ancient numbers went as high as a million and the knowledge of them was often used for amusement. In one game, 2 or 3 players took small sticks, generally the rib of a coconut leaf, and broke them into short lengths. After placing them in a central heap, the players would take them off one by one, calling out the number as they reached the tens, the hundreds, the thousands, each of which was represented by a special length of stick. The aim was to try to reach the million first.

When foreigners came with new systems of weights and measures they learned both English and French (metric) systems. Formerly, weights were estimated by comparing the weight of one thing with another. Liquids were measured by their containers, and linear distances by a certain span, like a rope to make houses and fences. They loved the metric system and the English yards because the fractions are so exact. Distances were also estimated according to the time it takes to travel from one place to another, but now in Tahiti they also use the kilometer and mile.