

Maintaining Balance for a Long Voyage

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Abstract

This paper introduces cultural aspects of health, using Hokule'a, the voyaging canoe, as a model for maintaining balance on a long voyage through life. Maintaining balance encompasses physical, nutritional and mental health. This triangle is crucial for the well being of a person. In the stress of the modern world we often disregard the basics in an effort to become more efficient and more productive, neglecting physical activity, eating fast foods instead of healthy meals, and forgetting our mental well-being. Eventually, this can lead to devastating co-morbidities. We discuss balanced nutrition, physical activity, and mental health, relating to living on the canoe, with lessons that can be applied to daily living.

Key Words: Native Hawaiian health; traditional sailing; cultural models for healthy living. (PHD 2007 Vol 14 No 1 Pages 57 - 65)

Introduction

The Polynesian Voyaging Society (PVS) is the nonprofit organization that oversees operations of the voyaging canoe Hokule'a. Its mission is to perpetuate the art and science of traditional Polynesian voyaging and the spirit of exploration through experiential educational programs that inspire students and their communities to respect and care for themselves and each other, and their natural and cultural environments.^a

PVS was founded in 1973 to investigate how Polynesian voyagers could have found and inhabited almost every island in the Pacific well before the great European voyages in the 16th century. Started by Ben Finney, an anthropologist, Tommy Holmes, a waterman, and Herb Kane, an artist, PVS set out to prove that Hawai'i was not settled by Polynesians accidentally, as some scholars of the time believed.^b Rather, Finney and his colleagues asserted that the voyages to different islands were calculated and that Polynesians were capable of sailing great distances without the use of Western instruments. The way in which PVS set out to prove this theory was to build a performance-accurate Polynesian canoe and retrace the traditional migratory routes that

were held in oral traditions throughout the Pacific for thousands of years.¹

Hokule'a was launched on March 8, 1975 in Kualoa on O'ahu. She was made of modern materials like fiberglass but was performance-accurate in terms of size and shape to that of a canoe 600 years old. For the next year, Hokule'a sailed around Hawai'i for sea trials and searched for possible crewmembers for the upcoming trip to Tahiti. Communities around Hawai'i embraced Hokule'a wherever she went.

In May of 1976, Hokule'a sailed to Tahiti in the way of ancient times. Without the help of modern instruments; the captain, navigator and crew relied on the stars, winds, birds and sea swells to navigate the 2,400 miles of open ocean to Tahiti. After 33 days at sea success was achieved as Tahiti was sighted. More than 17,000 people crowded Papeete harbor to greet Hokule'a and her crew. With that success, came a sense of cultural connection throughout Polynesia. The voyage to Tahiti proved that the ocean was a pathway rather than a barrier.¹

Since that first voyage, PVS has built and launched a second deep-sea voyaging canoe, Hawai'iloa, and completed six voyages to the South Pacific to retrace the migratory routes of Polynesians and recover the ancient arts of canoe building, and way finding.¹

In 2000, Hokule'a returned to Hawai'i from the successful voyage to Rapa Nui, by far the most challenging expedition Hokule'a and her crew had attempted to

date. Rapa Nui is a mere seven miles long by fourteen miles wide and is considered the single most isolated landmass on the planet.¹

In 2004, Hokule`a voyaged to the Northwestern Hawaiian Islands. This two-month voyage was special for many reasons. First, it was meant to bring awareness to the very fragile ecosystems that exist there. While all previous voyages had an educational component, this was the first time that there was such a large educational push within a voyage, directly from the canoe. The Honolulu Advertiser newspaper coordinated with schools to post questions on the web that were answered by crewmembers who were on the canoe. The education partners included local, state and federal agencies who branded the effort "Navigating Change."

There were teleconferences via satellite phones with schools from as far away as the U.S. East Coast. The idea behind this educational effort was to take the school students along on the voyage with the crew and broaden the educational reach of the canoe using technology. Technology, however, provides a conduit to disseminate information, reaching a broader based audience. Even where the use of oral tradition is important or even necessary in perpetuating knowledge, when combined with technology we can increase the human resource base needed to convey meaning.¹

Bringing Balance to Home Using the Canoe as an Example [A]

The canoe serves as a model of what a balanced life can be like. During a voyage, you have a group of people working as a team to achieve a goal. In the process they are; eating balanced meals, physically active up to 8 hours per day, and have mental health as a result of being focused on a difficult but achievable goal: to find land thousands of miles away. Each person cannot survive alone; they are integrated and interdependent. With nutritional health, one has the physical strength and stamina needed to meet daily challenges, bringing satisfaction and a sense of mental well being.

The lessons learned in preparing for a voyage are not as simple as those expressed in a Western classroom structure. Textbook style teaching can take one only so far, and then more traditional teaching methods take over. There are different levels of learning about voyaging.

The first level is just to understand everyone's role on the canoe. This is not necessarily stated verbally but is demonstrated through action. Lessons taught are often obtained at moments when one might least expect them. They may come when a pattern in the ocean appears in the waves, generating a lesson on swells and intersecting wave patterns. Or it can be simply how to flake out rope or tie a knot. If a certain pattern or layers of clouds appears, then you learn about wind patterns and what they signify. Much of the learning is through observation, oral lessons, and trial and error. These traditions are important, and the further development of leaders, navigators and crew is integral in maintaining the culture and further developing the human resources needed to continue such traditions.

These are important lessons that can be transferred and taught to those on land. There are many medical co-morbidities and illnesses, including hypertension, diabetes, and hyperlipidemia, that exist at a higher level in the Native Hawaiian population than in other ethnic groups living in Hawai'i. Many of these medical problems can be alleviated by lifestyle modification.^c The Hokule`a voyaging canoe serves as a model for culturally appropriate lifestyle changes. It brings together a community of otherwise diverse individuals and educates them about the host culture. The process encourages physical activity and working with others. Leading by example is an important means of educating others about healthy lifestyles.

This message of health and culture is already being taught to children, through programs like "Navigating Change."^d This program brings together multiple agencies and programs to educate students about traditional navigation and introduces them to federally protected waters and lands in the Northwestern Hawaiian Islands. Programs like this serve as a model of what can be achieved with cooperation. Perpetuating this knowledge is key to balance. Hokule`a is just one key, which shows how maintaining balance for a nautical voyage and the voyage of life are integral.

Voyage Preparation

Canoe Preparation: Dry dock [B]

The voyage does not begin out at sea, it begins months and years prior to sailing. The entire island community comes together to help prepare the canoe for a voyage.

Figure 1. Hokule`a in the Northwestern Hawaiian Islands



Each person contributes their skills and wisdom to the canoe in the best way they can. Dry dock is a time where any and all can help. The hulls, decks, lines, spar, mast and various other parts of the canoe need to be inspected and brought up to par. Sometimes there are large, structurally important jobs like applying fiberglass, other times there are less laborious tasks like sanding and varnishing all of the hundreds of wooden parts that make up the canoe. This takes hundreds of human hours to achieve and takes coordination and team effort. In the process of preparation there are many important spiritual, physical and health gains achieved.

On the spiritual level, one has time to meditate on the ways to further the greater goal and to help the canoe ohana. Furthermore, friendships and camaraderie is fostered, helping individuals appreciate and understand each other on different levels. There is an understanding in preparing for something that is greater than the individual. With this also means shedding preconceived conceptions and treating one another as equals. Regardless if you are a physician, photographer, lawyer, student, tradesman, healer, teacher, etc.; there is respect and a trading of roles. The teacher in one arena becomes the student, and the student a teacher. Releasing these preconceived societal labels takes great effort for some. This release is liberating for many, and provides an escape to an alternate reality, one of role reversal or change. It can be very humbling for a person who is used to being in charge to finally have to take directions from another, and to accept the directions and instructions given. **One of the most important lessons is having respect, for others and their knowledge they can share, and the willingness to learn.** This also helps maximize the roles that individuals play and thus increases the human resources available in a different way.

On the physical level, the dry docks can be very demanding. It begins with the removal of the canoe out of the sea and onto land, to the bay where the canoe can have repairs and maintenance done. We work together in groups at a defined task. An example of a task can be lashing two boards on deck together, which is no easy task, easily requiring six individuals. To demonstrate the physical demands required to lash, one must imagine having three persons on the top of the deck, and three persons standing on the ground below the deck. One person under the deck is threading rope through a hole in one board; another on the top of the deck pulls the rope through the hole in the board, and passes it down through another hole in the second board. The same

person on ground then pulls the rope through the second board. This rope is then passed to two other persons on the ground who then pull the rope very tight, using a large stick as leverage. This process is repeated on the top of the deck, with the other two persons pulling. This whole process is repeated at least six times for a single lashing and is orchestrated as a team. The act of pulling the rope tight is laborious and critical, since no nails hold the boards together. This process is repeated hundreds of times for the entire deck. Each person pulling knows that they may be out at sea, standing on deck (on the board) therefore they want to make sure that particular board will not come apart. All these things go through your mind as you pull tight, knowing that if you don't do your best, you or someone you care about could be placed in mortal danger. A similar team process is repeated for sanding, painting, and preparing the sails. By spending time painting and lashing, one does aerobic exercise without having to spend hours at the gym. This simple sequence demonstrates team work, patience, focus, and physical endurance; while at the same time using energy to accomplish a necessary task.

Balance between mind and body can be achieved. In the above description, integration of spiritual, cultural, and physical health are achieved. The tradition and knowledge of how to prepare a canoe for voyaging is preserved. In order to gain such knowledge, one must spend time with those who are skilled. It requires patience, humility, and the willingness to observe, understand, and implement the lessons. Being part of traditional voyaging is not just about being out at sea and navigating by the stars, more important than the voyage is the preparation for the voyage. Respect for knowledge and understanding the history behind the lessons taught is what matters most.

Food Preparation [B]

Food and water must be prepared for the long voyage, requiring teamwork and cooperation of the entire community. This is an essential part of a voyage, since the food and water we have is mostly limited to what can be carried. Food is rationed and calculated, with menus based on a healthy, balanced dietary regimen. Excess or waste means that there will be a shortage toward the end of the voyage. Hence, we take and eat what is needed and do not waste. Fresh fruits and vegetables are packed and prepared to last for the initial few weeks of a long voyage. Once the fresh produce is used, then preserved fruits and vegetables are consumed. Water is prepared and stored in hulls. There is a limited and designated amount for each person. The water used

for cooking is also taken into consideration for the ration. Protein is supplied in a variety of forms. There are beans and canned meats. Seafood can be obtained from the ocean however, in certain areas the biomass is greater than others and is not always dependable. Thus, although there is some availability, the protein needed is stored before voyaging and that which is caught at sea is considered a bonus.

The food preparation for the voyage is based on a balanced diet, using Western defined basic dietary guidelines and integrated with some traditional Hawaiian foods.⁶ The diet is balanced by limiting saturated fat, eating fruits and vegetables, and when possible eating fresh fish. Sweets and added sugars are kept to a bare minimum on the voyage and are considered a rare treat. The goal on the voyage is to stay within nutritional and dietary needs based on the activity level which loosely parallels recommendations made by the U.S. Department of Agriculture. Through prior trials, it has been determined that a strictly Western dietary model or a strictly traditional Hawaiian diet is not feasible on a long voyage. When Mau Pialug was training early apprentice navigators to sail, there was an effort to bring nothing but traditional foods by some of the crew, and nothing but Western foods by other crew. It was found that the strictly traditional foods spoiled too quickly. A balance of the two traditions is now maintained integrating traditional foods with some Western styles of preserving and eating foods.

A healthy, balanced diet is key to mental and physical health. If a health, balanced diet is not maintained, then it is difficult to function well on a voyage. An unbalanced diet can lead to many serious medical problems and nutritional deficiencies. On a short trip (about a week) an unbalanced diet may not be too serious. However, on longer voyages (greater than a month) it can have a cumulative effect. If nutritional needs are not met, then judgment can be impaired and place the crew at risk.

Training sails

Training sails are also an important part of preparation for the voyage. Since only a limited number of persons can sail, it is important that each member be proficient and understand the physics of sailing. This can range from how to set a sail, to how to steer the canoe once the navigator has set and adjusted the course. Every person becomes critical to the success of the voyage; if one person becomes ill or injured, then the other crew members have to step in to make sure that the canoe

stays on course. A person must be physically (aerobically) fit for the demands at sea, since the demands of pulling ropes and adjusting the steering sweep require quick bursts of energy.

Usually the training sails can be short day sails, or longer inter-island trips. They test a person's ability to endure the sea, especially in channels in-between the islands, where the waters are rougher. Sea sickness can be quite a challenge when on a long voyage and can pose several risks. One can easily become dehydrated, secondary to poor fluid intake or loss of fluids via emesis. Furthermore, it can be mentally challenging, with severe cases developing psychosis. For others, not being able to see land can be anxiety provoking. These trips are useful for identifying which volunteers are better suited for sailing and which are better for voyage support and preparation.

Actual Voyage

Roles

During the voyage, life is a microcosm of what happens on shore. There is a designated leader, the captain. There

is one who provides literal guidance, the navigator. There is someone who helps provide sustenance, in the form of fishing or cooking, and rationing water for the day. There are educators, who take various forms, one who teaches the next generation of navigators and crew; one who is teaches about the local geography and marine biology; and others who teach basic survival skills.

There is also a documenter who ensures

that the history of the voyage is recorded, whether in the form of video, photos, written, or oral stories. This ensures that the next generation will understand those who preceded them and can take that knowledge to build and learn from it. Finally, there is also the healer, who helps maintain the health of the crew. Although everyone has his or her designated specialties or roles, everyone is still considered a crew member, and as such is responsible for helping maintain the integrity of the vessel during the voyage. All these specialties together integrate the needs of the culture (navigation and documentation), health (healer and cook), and spirit (leadership and crew).

Shifts

During the voyage, the crew is divided into watches, which are even smaller than shifts. They represent key elements of the voyage: there is a navigator, watch captain, and two crew (with varying roles). The day is divided into sets of three 4-hour shifts, which means you

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are up sailing for four hours, and off for eight, and then up again for four and off for eight. The first shift begins at 6 am and ends at 10 am, the next runs from 10 am to 2 pm and the next one goes from 2 to 6 pm. This cycle repeats for the next 12 hours. Time is kept by the stars and sun. During the 4-hour shift on deck, responsibilities include; maintaining the course set by the navigator, trimming sails, steering, checking the hulls for any salt water intrusion, and keeping the decks clean. This can be a physically demanding time, especially if winds and swells are strong. One must be alert and focused, because a mistake can throw the canoe off course and put the crew at risk. Between work shifts there are other tasks to be done such as preparing meals, laundry, and bathing. Once all tasks are completed and everything is set and there are no imminent needs, then there is free time. Sometimes, although it may not be your work shift, there is a need to have everyone on deck helping. When this occurs there are no complaints or abstaining, this is part of working as a cohesive unit. Once again there is evidence of teaching and passing on culture and the tradition of sailing and navigation via traditional means.

Finding Balance in Culture and Health

Some programs have tried to integrate traditional diet into current Western diet. One such approach was dubbed the Hawai'i Diet.³ This diet focused on traditional meal that consisted on 77% complex carbohydrates, 11% protein, and 12% fat. There was no restriction on portion or calorie size. During this three week trial it was found that there was a decrease in body mass index, blood pressure, and serum blood sugar. Although this type of project is a start, it is important to note that this alone cannot be the only solution. One must integrate all aspects of life to create a healthy unit. This means that physical exercise and activity should not only be limited to the gym, but also should be achieved through productive activities. Families should work together as a unit; cooking, cleaning, doing yardwork and working on projects. Furthermore, cultural well being is important. This means that connection to culture should be identified as a goal while healthy eating and physical exercise is maintained. Sailing long voyages on canoes such as

Hokule`a give people the opportunity to build in a routine over the course of thirty days to achieve this balance. Diet is maintained by careful pre-trip planning and the physical exercise portion of the voyage is guaranteed. The renewal in cultural pride by literally sailing in the wake of one's ancestors provides great motivation for success. By the end of a 30 day voyage, finding land typically 2,500 miles away, almost every crew member sees weight loss in varying levels as well as increased muscle tone and renewed cultural pride.

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Conclusion

During the voyage of life balance needs to be ensured. This means that physical, mental health, nutrition, professional well being, family, and culture all need to be in balance. Each of these aspects in life should be integrated. Hence, if one falters then the others will too. The Hokule`a voyaging canoe serves as a microcosm of life and is an example of how we can change our lives in simple ways. The crew is a family, each person has a role, and without everyone's cooperation the entire voyage is at risk. The balance achieved, with health, diet, culture and sense of ohana is integral to survival. Voyages like "Navigating Change" set an example of living a balanced life and demonstrate how these lessons can be carried onto land in our communities.

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