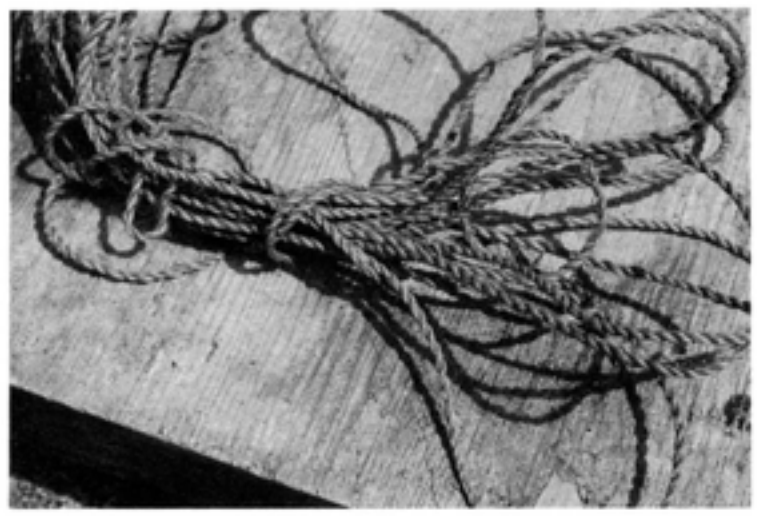
THE CASE OF THE STRONGEST CORD

STUDENT READING



How would you build a house without nails or secure things without screws or strong glue? Early Hawaiians were skilled at constructing many things using cordage (string and rope) made out of fibers from plants. The cordage was used to fasten, bind, lift and pull things. For example, instead of building a house using nails, Hawaiians used cordage to construct their houses of wood and *pili* grass. Hawaiians made tools, nets, fish lines, fish hooks, musical instruments, games, weapons and more using cordage. Their feather capes, helmets, and containers were made with cordage. They even hauled huge *koa* logs down the mountain using ropes made from plant fibers.

Niu (coconut) husks made some of the best cordage. Cordage made from *niu* husks is called *ʻaha*. It was used in canoe-building because it doesn't slip and it gets tight when wet. Samuel Kamakau, a native Hawaiian historian who lived in the 1800s wrote that when building a canoe "half the task was in making the coconut cordage" (Kamakau, 1964). What did he mean?

Hawaiians made fishnets and fish lines from strips of bark from the *olonā* plant because it is resistant to water and doesn't stretch. When Western sailors first came to Hawaiʻi, they discovered how strong *olonā* cordage is. They encouraged Hawaiians to manufacture a lot of it. The cordage became a valuable trade item. In fact, well-made cordage was one of the most valuable trade items in early Hawaiʻi. It was so valuable, indeed, that those who grew the plants did so in a secret location. The *olonā* farmer was one of the wealthiest.

Before twisting or braiding fibers to make cordage, the plant fibers must be prepared. The husks of coconuts are soaked in salt water. Then the husks are pounded, cleaned, separated and dried. Preparing *olonā* fibers also takes time and skill. Hawaiians used shells to scrape strips of *olonā* on long hardwood boards. *Hau* bark, another plant fiber used to make cordage for nets, bowls and gourds, also had to be peeled and prepared.

Information about how to make coconut cordage and *hau* cordage can be found on the Polynesian Voyaging Society Web site in an article entitled *Plants Used for Building*

Canoes (Babayan et al., Not Dated). Sections of that article are adapted and reprinted below with permission from Polynesian Voyaging Society.

ʻ*Aha* (Sennit) – Made from Coconuts

People have made and used cordage for many centuries. It has been used to attach one object to another and to lift, pull, or secure things into place. Cordage is useful s well as decorative. ʻ*Aha* (coconut sennit cordage) is still being made in many places in the Pacific. Both the green and dry husks of the coconut are used.

Polynesian Methods for Preparing Coconut Fibers

Method 1

- Break the husk apart into sections. Turn over each section to expose the slick outer skin.
- Pound this outside portion. This breaks the inner fibers away from the outer skin.
- Soak the sections in sea water for several weeks. Then remove the long fibers to use for making cordage.

Method 2

- Break the husk apart. Remove some of the long fibers.
- Soak the fibers in sea water for eight weeks.

Pacific Islanders who use the green husk just remove the long fibers by pulling the husk apart and working the fibers into cordage.

Sennit used for canoe lashing must have a very tight braid and is extremely difficult to make. Because of the roughness of the fibers, only a few lengths can be made in a day.

Several different kinds of cordage were used throughout Hawaiʻi and the Pacific region. Bark from the *hau* (hibiscus) was easier to work with than coconut fibers. *Hau* bark strips are longer and when braided or twisted are very strong. *Hau* cordage was used for securing items such as *umeke* (bowls / calabashes), or rolls of *kapa* (bark cloth) or *lau hala* (pandanus leaf).

Making Coconut Cordage (Sennit)

1. Husk mature dry coconuts and break into 8 to 10 sections. Remove shorter fibers next to outer shell, at both ends of the husk, and discard.
2. Soak sections for two weeks, or until they are easy to work. Soaking fibers in running water helps in the cleaning process. Weight them down with a brick or stone when soaking.
3. Remove sections. Work sections by twisting or use table edge and press sections over the edge; peel and discard outer skin.
4. Beat each section with a wooden mallet. Use a piece of hard wood or a flat stone for an anvil.
5. Start beating. Beat sections starting from the center and working to the edge. Turn section around, repeat process to remove extra matter.
6. Rinse to “separate chaff" from fibers. Shaking the bundle helps to remove the "chaff." Tools like shells or a strong comb help in removing extra material. Work through fibers. This process cleans and untangles fibers. Tie each section around the middle. This is for easy handling.

Making *Hau* Cordage

1. Ask an adult to help you cut a *hau* (hibiscus) branch. Select a straight branch with few branch scars.
2. Ask an adult to help you strip the outer bark (bast) using a sharp instrument (*ʻopihi* shell or knife). **Do not use a knife without adult assistance!** Peel the bark away from the branch.
3. If fine cordage is desired, scrape off the outer bark.
4. Soak the bark in water for about a week. Running water, such as in a stream would work best. You can also place the fiber in tap water. Change the water every few days to prevent the bark from rotting. The object of soaking is to soften the fibers so they can be separated into layers.
5. Take strips of the material and braid or twist to make cordage.
   - Take three strands of fiber, start each one about one inch from the other.
   - Place right palm over fibers. Place fibers on your leg.
   - Firmly roll the fibers downward towards your knee.
   - Keep adding fibers to lengthen the single fiber thread.

Another Method for Making *Hau* Cordage:

1. After all the fibers are cleaned, tie 15 fibers together with a knot. This will be used to make cordage.
2. Divide the fibers into three groups of five fibers. It is better if the groups of fibers are not the same length.
3. The knot may be held between your toes or tacked at the edge of a table. Braid the fibers.
4. Before you reach the end of a fiber group, add in a new group of 5 fibers. Individual fibers may also be spliced in as needed.