-BAMBOO-

Detailing Its Many Uses in Ancestral Bushcraft & Primitive Skills

by Rowan WalkingWolf

INTRODUCTION

As the title suggests, this publication concerns bamboo and its many applications in primitive survival and wilderness living situations. As the indigenous peoples of southeast Asia can attest, bamboo is one of the most versatile, utilitarian, and easy-to-use materials in the world. This, coupled with bamboo's blindingly fast growth rate (between 4 and a whopping 98 inches per diem) AND the fact that bamboo is naturalized and invasive in almost every part of the world where it is not native, makes bamboo an indispensable resource for all those interested in earthbased skills.

Within this piece, we'll be examining and detailing the many uses of bamboo. The information herein is meant to be comprehensive, but is by no means encyclopedic. I've been working with this incredible grass for many years, and I've utilized it for most all of the applications mentioned within. However, I by no means possess all the knowledge and experience related to working with bamboo, especially the secrets and time-honored traditional wisdom of indigenous peoples. There are certainly many other uses for this material, and I encourage all those with a passion for primitive skills to consult other sources and discover other methods and tools that I don't know.

Further, this piece is meant to be a learning guide for skills, tools, and technologies pertaining to bamboo, but it is NOT meant to be a field guide. This piece won't teach you how to identify bamboo, how to distinguish between different genera and species of bamboo, how to find wild and naturalized stands of bamboo, and so on. There are countless field guides, botanical books, online articles, and living human repositories of knowledge concerning this plant, and they should certainly be consulted in tandem with the information herein.

FOOD

Although a powerhouse of building materials and utilitarian tools, bamboo is also an edible plant. The young shoots of the bamboo plant are used throughout the cultural cuisines of Southeast Asia, and are available commercially across the world. There are over a hundred species of edible bamboo, but the vast majority of bamboo species are mildly to hazardously toxic. For this reason, and because it is beyond the scope of this piece to teach safe identification and differentiation between bamboo species, I won't go into detail here about harvesting and eating bamboo. Those who wish to eat this amazing grass are encouraged to do further research.

Edible young bamboo shoot

WATER

In addition to its edibility, bamboo can also be utilized for a number of applications pertaining to water. This includes a variety of drinking and cooking vessels, potable water itself, and even primitive plumbing! The sections within this chapter will detail each of bamboo's water-related applications.

POTABLE DRINKING WATER

As most people who have interacted with bamboo know, the individual segments of bamboo stalks are hollow. The primary purpose of these cavities is to store water as a reservoir for dry spells and droughts. Because fresh, safe drinking water is a critical necessity in survival situations and extended wilderness living, the water stored within bamboo can be an invaluable resource.

Not all bamboo contains water, however. To determine which pieces of bamboo do or do not hold water, one can simply shake the entire bamboo stalk and listen for a sloshing sound, or tap on each individual cavity and listen for a change in tone. Rapping on empty bamboo cavities sounds appropriately hollow, whereas rapping on segments that contain water produces a deeper, fuller tone.

People drinking bamboo water in Malaysia

Once a segment containing water is identified, one need only separate that segment from the rest of the stalk by cutting or sawing. In doing this, it's important to leave the node (the internal wall) at the bottom of the segment intact. This results in a container with a bottom rather than a hollow pipe-like tube. The water obtained from bamboo in this way is potable, safe from pathogens and debris, and contains trace amounts of carbohydrates and other nutrients.

WATER BOTTLES

Harvesting bamboo using the method described in the previous section yields a ready-made container – the water within bamboo comes in its own fibrous water bottle! Again, to make such a container, simply harvest a segment of bamboo such that the top opens into the hollow cavity and the bottom contains one of the internal nodes (the fusion where two segments of bamboo join together). Harvesting bamboo with this method yields a water bottle with a solid bottom and sides and an opening into the hollow tube.

One potential difficulty with using bamboo containers to hold liquid is the open top on one end. To remedy this, it's super easy to fashion a cork or stopper out of the same stalk of bamboo from which the bottle is harvested. Ideally, a bamboo water bottle should be relatively wide, and therefore harvested from the lower

Bamboo water bottle with cork/stopper

(and therefore older) segments of the plant. This leaves the rest of the stalk (specifically, the narrower higher-up growth) available for use. Some part of this higher, younger, narrower growth can be cut off and fit into the opening of the bottle to create a makeshift cork/stopper. See the pictures to the right for more detail.

COOKING POTS, SERVING DISHES

Green bamboo doesn't catch fire or burn when exposed to coals and open flames. Just so, the hollow sections of bamboo can be stuffed full of grains, vegetables, and/or meat and be used as cookery. Many of the indigenous peoples of southeast Asia utilize bamboo trenches and segments to cook many or all of their meals. This eliminates the need to craft and carry pots and pans, and the remnants of these vessels can be burnt or otherwise destroyed, and thus go directly back into the landbase.

A diversity of cooking vessels can be made from single segments of bamboo. Some are identical to the water bottles described above, and are used upright as cooking tubes. Another popular style is the cooking "trench", which is a segment of bamboo with nodes on each end and a portion of one side cut away to create a sort of trough or trench. The trench type vessel is typically placed directly on coals or open flame rather than standing upright. The top figure to the right depicts a row of the upright pipe-style cooking pots, each of which contains rice and is stoppered with a wad of bamboo fiber. The bottom figure depicts the trench-style cooking pot being loaded with vegetables and meat.

As an added bonus, each of these bamboo cooking vessels can also be used as a serving dish when cooking is finished. And, as mentioned above, these containers are disposable, flammable (after sufficient exposure to fire, anyway), and biodegradable.

STERILIZATION

Combining both the ability to withstand heat/fire and the capacity to MAKE fire (see the following chapter on *Fire Making*), bamboo is an optimal material for sterilizing "unsafe" (i.e.: wild) water. Using any of the previously described methods for crafting bamboo containers, make a vessel, create fire by any means, fill the bamboo vessel with questionable water, and expose to sufficient heat such that the water boils for at least 15 minutes. As with using bamboo for cooking, the vessels used to sterilize water can then also become drinking containers, cups, etc.

PIPES – BAMBOO PLUMBING & AQUEDUCTS

Among the agriculturalists of Southeast Asia, bamboo is used as both piping and as aqueducts, both for the irrigation of rice paddies. I've also heard of, but never directly witnessed, the use of bamboo aqueducts to divert small streams of water from rivers into or near one's bush shelter. By utilizing this method, one is able to directly access drinking and cooking water without the need to make continual trips to and from the nearest freshwater source.

The simplest and most accessible way to make bamboo piping is to split large pieces in half and hollow out their nodes (the hard middle sections within). If a single piece of bamboo isn't long enough to fulfill one's needs, multiple "pipes" can be fitted together simply by laying one on top of the next and lashing together if additional stability is desired.

Bamboo aquaduct

FIRE

Bamboo has a number of applications related to primitive fire, both in terms of making fire and in terms of carrying/transporting it. The following sections detail those uses.

TINDER & KINDLING

Bamboo is an excellent source for both tinder and kindling. Tinder is made by splitting bamboo, then gently shaving the sides and inside of the split segment into a fine, wispy tinder bundle. As with most plants, bamboo kindling is made by splitting a piece of bamboo in half and then cutting the split pieces into narrower and easily ignitable slivers. Tinder and kindling made in this method are suitable for all kinds of friction fire, and, provided the tinder is sufficiently fine and dry, it can also be used with traditional flint-and-steel and contemporary "metal match"/ferro-rod techniques. Pictured below are both kindling and tinder made from bamboo.

Bamboo tinder (below) & kindling (above)

FIRE SAW

Besides utilizing bamboo to make the tinder and kindling necessary to firecraft, bamboo can also be used to actually achieve a coal via friction fire. There are two common ways to do this: fire saw and fire piston. Gathering and preparing the components for the fire saw method is almost effortless, but the active process of making a coal is extremely laborious. Fire piston is exactly the opposite of fire saw, requiring meticulous precision engineering and great difficulty in manually crafting a set, but once prepared it's a breeze to use.

The method of making and using a fire saw essentially boils down to rubbing two pieces of bamboo together, much like all friction fire. To make a set, one need only split a segment of bamboo lengthwise. One half of a split segment becomes the hearthboard (again, as with other friction fire woods), and the other half becomes the "saw" or "knife", which will be used to create friction, heat, and eventually a coal by rubbing it on the hearthboard. The hearthboard has a small notch cut into it across its width, while the saw/knife must be shaved down and tapered along one of its edges to fit into said notch. The notch must be a hole that goes all the way through the bamboo's side wall such that the powder and resulting coal buildup can fall through to a tinder bundle. Obviously, then, a tinder bundle sits nestled in the hearthboard directly underneath the notch (remember, the tinder bundle and kindling can both be made of bamboo!).

There are several ways to physically use a fire saw set, some definitively easier than others. By far the easiest is the two-person fire saw. In this method, each participant sits across from the other with the hearthboard between them. Each person holds one end of the saw, and both sawyers alternate sawing back and forth and applying downward pressure to increase friction. Once a coal is achieved, one or both persons blow the coal into flame.

There are two common solo forms for fire saw, one of which is more difficult and inferior to the other. In the more difficult form, the hearthboard and tinder bundle remain on the ground, and the person doing the sawing saws back and forth across the hearthboard as described in the two-person method above. Working alone, it requires extreme exertion and strenuous labor to facilitate adequate friction to get a coal this way. The other solo method is much easier.

In the alternate solo form, the pieces of the fire saw kit are inverted. The saw or knife is upright, one end planted in the ground and the other buttressed up against the stomach or leg of the person sawing. The hearthboard is held in the hands, inverted such that the tinder bundle is facing away from the kit and the sawyer (and is held in place by the thumbs), and the notch of the hearthboard is touching the saw. To achieve a coal utilizing this form, the sawyer saws up and down, using her body weight and gravity to provide sufficient friction.

PRO TIP: Through repetitive practice of both the solo and two-person methods of fire saw, I've learned a few clever tweaks that I recommend to all those who pursue fire saw. First, bamboo's edges can be quite sharp and uncomfortable to hold when it's been split in half. To solve this, wrap cloth or buckskin or some other protective cover around the parts that you're holding. Or, instead, leave the portions of the bamboo you'll be holding whole (i.e.: round) and cut out only the working parts of the saw (if you're holding the saw) or hearthboard (if you're holding that). Also, if you're doing the solo form, using a piece of cloth, fur, or buckskin to cushion the area where the saw touches your body can be a big relief.

PRO TIP #2: Thick-walled species of bamboo work vastly better for fire saw than narrow and ornamental varieties.

Fire saw, solo method; note the tinder bundle held in place with a bamboo stick

Coal in tinder bundle from fire saw

Notch in bamboo hearthboard

FIRE PISTON

The fire piston (aka, fire syringe, slam rod fire starter, etc.) is an indigenous southeast Asian technology that creates a coal in an ingenious way. The fire piston is essentially a rod that fits inside a slightly larger hollow tube. The piston holds a small piece of tinder material, and contains a gasket toward its end that makes an airtight seal when it's put inside the hollow tube. Upon rapidly forcing (hence "slam rod") the piston into the tube, the airtight gasket ensures the reduction of volume and compression of the air inside, which, because of the physics of the whole contraption, immediately heats up to 500°F/260°C and ignites the tinder. According to the book *Rudolf Diesel and the Fire Piston* and the movie *Diesel Story*, the fire piston was likely the inspiration for the invention of the Diesel engine. Although fire pistons are traditionally made of a variety of materials, bamboo fire pistons are quite common.

Unlike other primitive fire methods, the difficulty of the fire piston lies not in its usage to create a coal, but in its manufacture. The fire piston is a precision tool with little margin for error, especially so because it must have an airtight seal. However, once made, using a fire piston is one of the easiest means by which to make a coal for primitive fire.

To make a fire piston from bamboo, one must first find a segment of bamboo roughly cigar-sized (or a little larger) in diameter. That piece is then cut such that one end has an opening and the other end is a node (closed). Then, one must find a piece of bamboo smaller in diameter that fits as closely as possible inside the larger piece. This second piece is not split or hollowed out, but retains nodes on both ends and should be rounded and smoothed down to fit within the larger piece.

Then, toward one end of the smaller piece a channel is carved all the way around the stalk. This is the groove into which the gasket material will be tied or glued. A number of primitive materials can be used for gaskets, including plant fibers, rawhide, fur, and buckskin. By attaching the gasket, one is trying to make the chamber airtight and as flush as possible. When a suitable gasket is constructed, the entire piston apparatus should be lubed with animal fat or some other oil to make it operate smoothly and without catching.

To use a completed fire piston, one first puts a piece of tinder material (tinder fungus, cloth, charcloth, any combustible plant matter) on the end of the piston that will be entering the chamber (i.e.: the end with the gasket on it). The piston is then inserted in the chamber such that the gasket is just inside. Then, the piston is slammed into the chamber rapidly, either by striking down on the piston or by inverting the device, holding the chamber, and striking the whole thing down on the ground with the piston facing down (i.e.: so that the piston hits the ground and is forced upward into the chamber).

A successful usage of the fire piston creates a coal inside the chamber on the end of the piston, which must then be quickly removed from the chamber before it suffocates in the minimal oxygen. Once removed, the coal can be transferred to a tinder bundle and blown into flame.

Top: Wooden fire piston with a coal after a successful use; Bottom: bamboo fire piston

TORCHES, COAL CARRIERS

Green bamboo resists burning fairly well. Bamboo is also a superb crafting material due to its inherent strength and the ease of working with it. These two factors combined make bamboo ideal for carrying and transporting flame.

Making a bamboo torch is identical to making a bamboo fishing gig (page 22). First, a torch-length segment is selected and cut. Then one end is split with two perpendicular cuts, creating four pieces. Small wedges of bamboo or other material are driven into the splits, forcing them apart. Then, the wedges and stalk may be lashed together to keep them from further splitting down the stalk, though this is not necessary on a disposable torch. The finished product here will look almost identical to a Tiki Torch, although the canister of flammable fluid inside the bamboo "fingers" will instead be a bundle of combustible natural materials.

Once this tool is assembled, a tinder bundle of any flammable material is gathered a placed inside it. Then, any time a torch is desired or needed, the tinder bundle is lit. The lit torch can be carried until the tinder bundle runs out, which is easily remedied by continually replacing the tinder as it burns down. In place of tinder, pine sap and animal fats can also be burned in a bamboo torch, though doing so will more quickly disintegrate the torch itself.

Furthermore, bamboo torches can easily be repurposed into coal carriers to transport fire from one place to another and thus circumvent the need to make primitive fire multiple times. To do so, make a torch as described above. Then, pack the torch very tightly with dense, super fluffy tinder material (bamboo shavings, cattail fluff, clematis fluff, juniper or red cedar inner bark, etc.). In this way, the tinder bundle will smolder and smoke rather than burn. By monitoring this coal-carrier, one can add more dense tinder as needed and ensure the torch doesn't flare up into fire. In this way, fire can be carried in coal form for long distances and can then be blown into fire when desired.

Bamboo torch and bamboo fiber tinder bundle

FIBER ARTS, WEAVING, & CONTAINERS

CORDAGE & LASHING

Bamboo can be used to build or craft just about anything in a primitive context, and cordage is no exception. To make cordage and rope using bamboo, one need only split a segment and pull long, thin strips off the stalk. When an abundance of strips have been collected, it's a simple matter of reverse-wrapping or braiding them into cordage as with all other plant fibers. The resultant cordage can be used for a massive plethora of primitive applications, including lashing together any two things that need lashing.

Bamboo strips & cordage

BASKETRY

Bamboo can be fashioned into a tremendous variety of baskets. This is done by first splitting a stalk and stripping off 1"- to 2"-wide pieces that are as long as possible. These "splints" are used to make plaited baskets, as with traditional ash splint basketry.

Bamboo baskets

HATS

The farmers and pastoralists of southeast Asia know well the utility of bamboo hats, which they have used for centuries to keep the sun and rain off their heads and out of their eyes. Such hats are made in a very similar fashion to the splint basketry described above. Indeed, bamboo hats are essentially upside-down noggin baskets.

Bamboo hat

GENERAL CONTAINERS

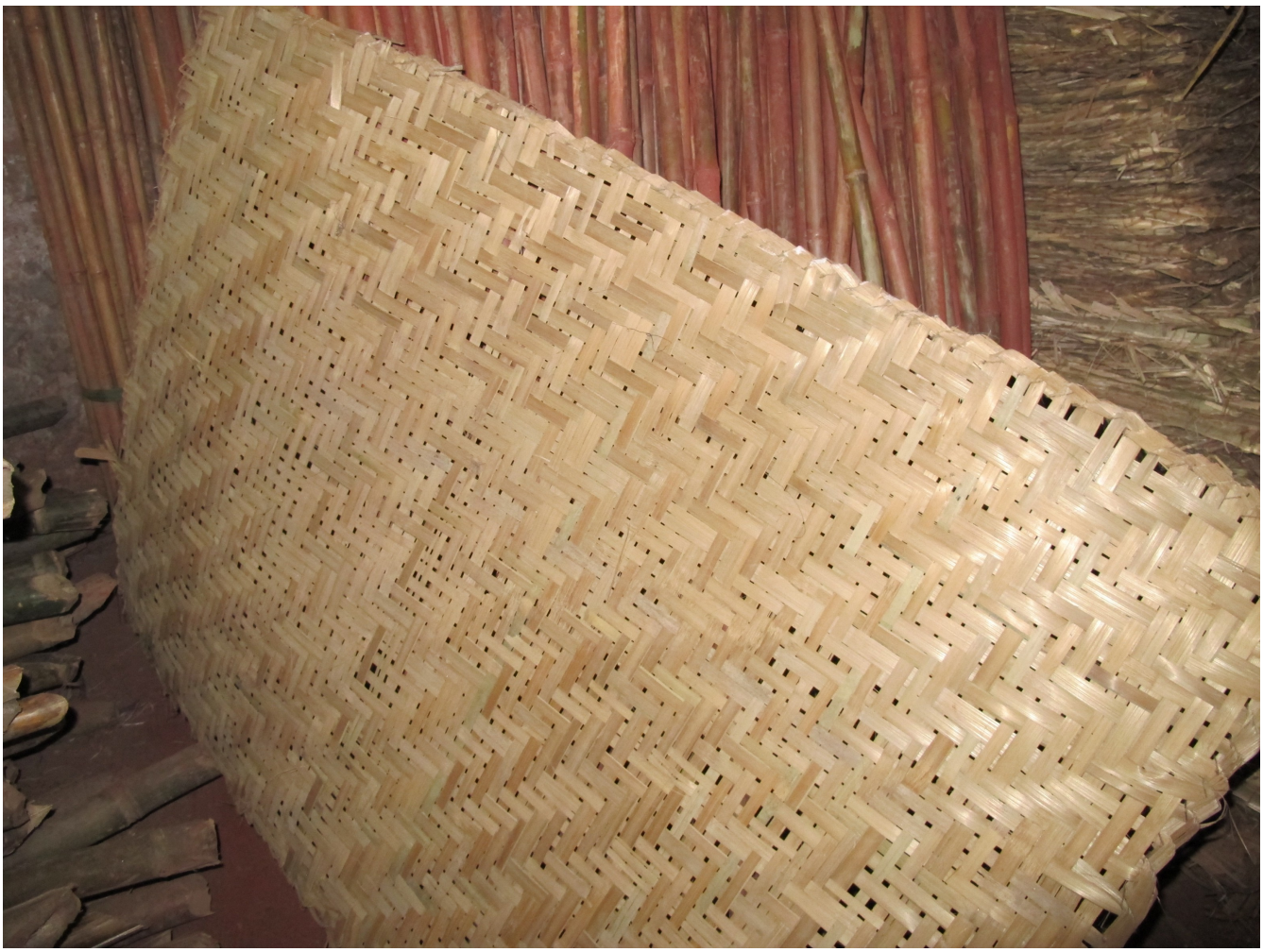
Durable, attractive containers can be made from bamboo in mere minutes. Simply cut off a segment of desired diameter with one end open and the other end a node. Then, find a segment of larger diameter that the first segment will fit into. Cut the second segment with one end a node and the other open, but cut it much shorter than the first. And there you have it! - the first segment is the container, and the second is a cap or lid for the first. Bamboo can also be made into eating dishes, water bottles, and a variety of cookery and eatery, as described in the sections on food and water. It can also be woven into a variety of baskets, containers, bento boxes, and so on.

Timorese bamboo container

MATS & SCREENS

As with baskets, bamboo can be woven (or sewn with thread, cordage, or sinew) into large mats. These are made by splitting bamboo into splints (as described in the basketry section) and weaving the splints into plaited mats. These mats can be used as floor coverings, makeshift survival blankets and protective coverings, and hanging screens in short- and long-term bush shelters. They can also be utilized to cover large pitfalls in hunting/trapping. Basically, anything a large mat or dropcloth is used for, bamboo mats will furnish the same effect.

Plaited bamboo mat



SHELTER & STRUCTURES

GENERAL CONSTRUCTION

Considering that it's a grass, bamboo is incredibly strong and versatile as a building material. In a primitive context, just about every component of bush shelters can be made using bamboo. Walls, floors, mats, back-rests, even plumping and aqueducts (described in the section on water), teepee poles, support poles for a-frames and wickiups, tripods and quadripods for smoking hides – all can be easily assembled with this amazing plant. Due to its extreme variability, one could write pages upon pages about every type and form of shelter that can be constructed with bamboo. This is well out of the scope of this piece. However, following below are a small sampling of pictures illustrating bamboo's use in the fabrication of bush shelters.

Elevated bamboo platform, used to keep the shelter's occupants off the jungle floor

Bamboo shingles, used for weatherproof roofing

Bamboo hunting blind & bush shelter

Bamboo supports, joints, & beams in a structure in the Philippines

Bamboo shelter with fire reflector and flat plank floors

WALLS & FENCES, FLOORS

Besides the flooring and walls shown in the previous pictures, it is worth mentioning again that bamboo can be woven into plaited mats that can be used as walls, fences, and flooring in primitive (and contemporary) shelters. When shelter is not urgent and time is not a factor, bamboo can also be planted and its growth wrangled such that it grows into living walls and fences.

HAMMOCKS

One of bamboo's most captivating and impressive uses is as a hammock, which, when properly crafted and placed under a protective canopy, is both a shelter and bedding. There are several ways to fashion this material into a hammock, each with variable levels of complexity and labor. We'll look at two of these methods below.

The first method is also the easiest we'll be discussing, provided one has an abundance of cordage on hand. This method of hammock fabrication is basically identical to tying a bamboo rope ladder. That is, a number of segments two to three feet in length and an inch or two in diameter are lashed or tied together using vast lengths of cordage or rope. Once strung together, the lashings are woven/braided/twisted/tied into a cohesive single length of rope on each end of the hammock, and these become the rope by which the whole thing hangs. See the picture below for a better idea of how this is all accomplished:

Rope ladder style bamboo hammock

The other method for crafting bamboo hammocks is more time consuming and meticulous a process, but is less resource intensive, requiring only bamboo (and a cutting tool) to complete. Using this method, a single fat piece of bamboo is cut to the desired length while green. It is then split a number of times between the two ends, making sure to leave one full segment (node to node) on each end. In this way, the splits run almost the full length of the stalk but stop a full segment's length from either end and cannot split further. Once split, the top-most sliver of the splits is removed entirely, creating a gap that, when widened with the subsequent process, will become the cavity into which the hammock user sits.

The next step in this process is to make a great many splints from a separate piece of bamboo. These splints are then interwoven (plaited) between the splits on the original length of bamboo. Weaving splints into the original piece makes the split slivers begin to bow out into hammock shape, and adds the structural integrity necessary to support human weight. Weaving continues until the desired shape and constitution are reached. Then, when the hammock is finished, it can either be strung up with cord or rope, or, if cordage is not available, it can be wedged between two sets of trees or other natural features.

Split style bamboo hammock, just beginning the cross weave

Another split style bamboo hammock with a more complete weave

Complete tightly-woven bamboo hammocks

WEAPONS & HUNTING

SPEARS & GIGS

One of the simplest, deadliest, and most ubiquitous hunting tools in ancestral societies is the spear. It is found on every habitable continent, and differs little in form and function. Bamboo is an amazing material for the fabrication of spears. Creating spears with bamboo yields two distinct types: the regular or large-game spear, and the gig.

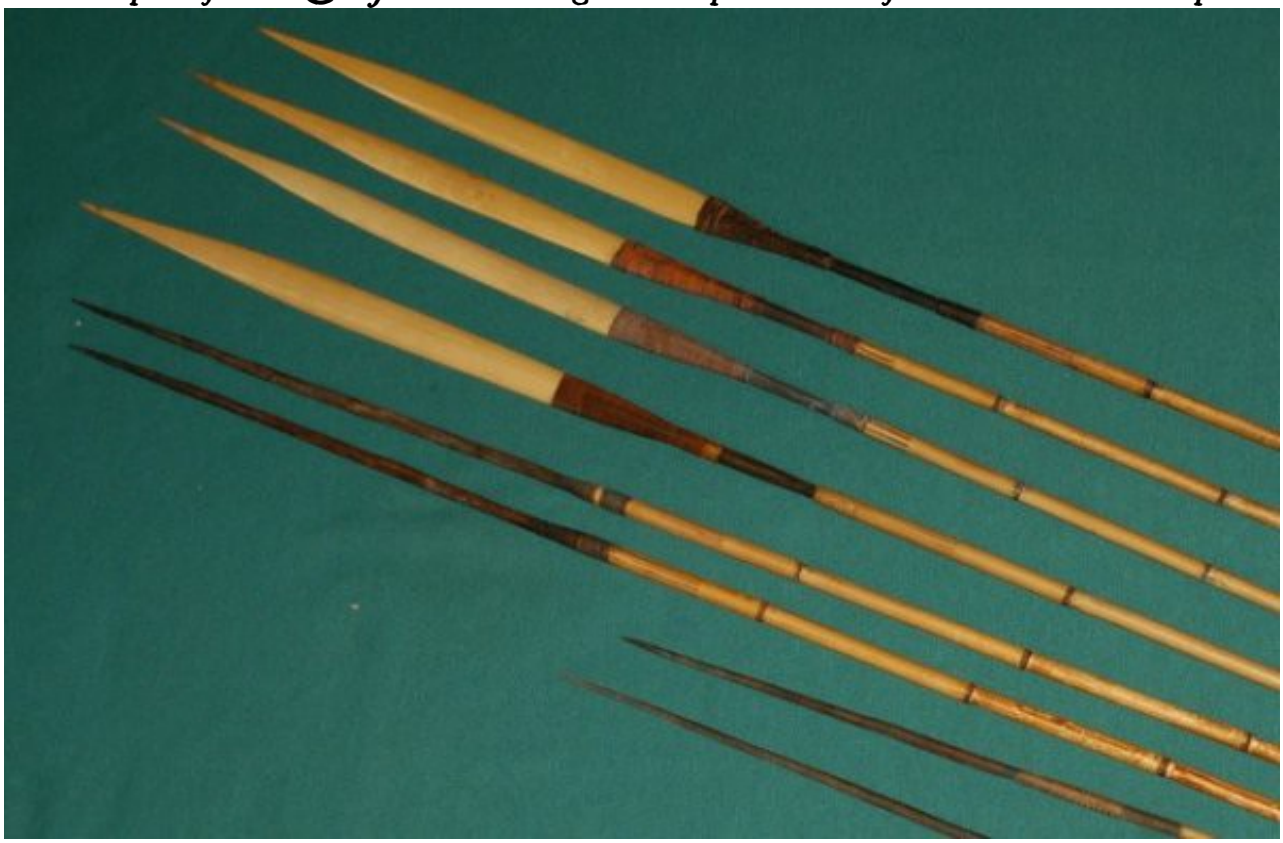
The standard spear is ultra simple to create. To select a stalk to transform into a spear, one must find a piece of a diameter that is comfortable in one's hands. Ideally, a piece of bamboo that is to become a spear should be as tall or taller than the person who will be using it. Spears shorter than the user's head run the risk of impaling the wielder's eyes, face, or throat should the wielder trip and fall. Spears taller than their wielder avoid this potentially lethal drawback.

Once a length of bamboo of the appropriate height and diameter is gathered, one then removes all branches and leaves, and cuts what will be the stabbing/thrusting end at an angle between 30 to 45 degrees. This creates a simple syringe-needle-esque taper on the end, which, when jabbed through prey, encourages large wounds and rapid hemorrhaging due to the bamboo's hollowness.

Simple bamboo spear

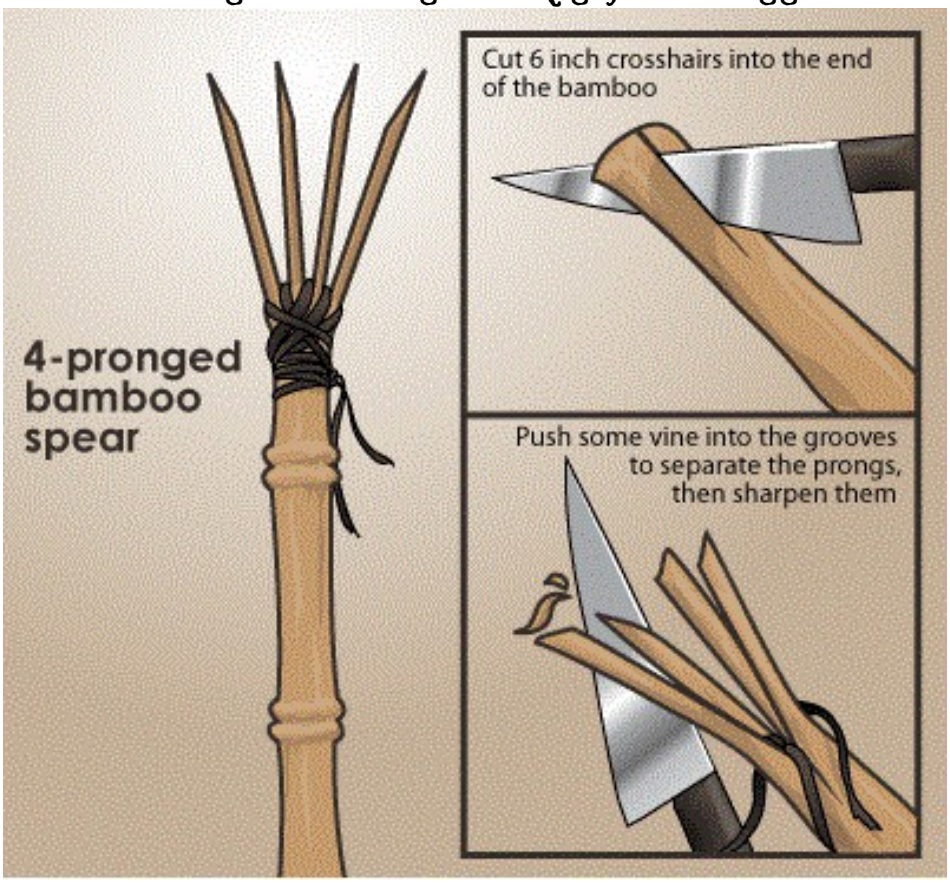
The beauty of this method is its extreme simplicity and ease to execute. However, spears made in this simple manner don't hold an edge and have very little durability. Thus, this simple design can be improved upon and made more durable by splicing in stronger materials. The natives of New Guinea make large leaf-shaped spearheads (also from bamboo) and affix these to the end of their bamboo shafts. These smooth, broad heads are less likely to dull than a simple bamboo spear shaft, and can be replaced if they do wear down. Another method – common with the river cane arrows (very similar to bamboo) of the indigenous peoples of the southeastern woodlands of Turtle Island – involves hafting a stone or metal arrowhead to a hardwood shaft, then inserting and securing that shaft into the hollow spear-end of the bamboo pole. This creates a very durable stabbing end with a light, easy to manufacture bamboo spear shaft. With this method, a hardwood shaft can be fire-hardened and tapered to a point without a stone or metal spearhead, and can be used as the stabbing point of a bamboo spear as is. See the picture below for a better idea of how these techniques are implemented:

Bamboo spears from New Guinea, including bamboo spearheads & fire-hardened hardwood points



The other type of bamboo spear we'll be discussing is called a gig, and, whereas the simple bamboo spear is used for larger game, the gig is typically used for small game (like frogs, rodents, etc.) and for spearfishing. Gigs are remarkably easy to manufacture, though slightly more complex than the simple bamboo spear. They are made in a nearly identical fashion to the bamboo torches described on page 11. Basically, a section of bamboo of an appropriate length and diameter is selected, shorn of branches and leaves, and then split with two perpendicular cross-cuts at what will become the spearing end. Splitting in this way creates four prongs, and these prongs are then split down to the next node (but not into or beyond it). Each prong is cut into a tapered point, and, if desired, can be cut like a harpoon point with indentations or notches to prevent game from slipping off. Once each prong has been fashioned into a weaponlike protrusion, a small stick or piece of bamboo is inserted in each cross-cut and forced downward to the lowest possible position, thus opening the prongs outward and away from the center. In place of sticks or bamboo segments, a bamboo node can be used instead. Once this welt is in place, cordage or sinew is lashed around the prongs and then beneath them along the shaft to keep the whole weapon stable and solid, and to prevent splitting down the shaft.

Diagram illustrating the making of a bamboo gig



Four-pronged bamboo gig with harpoon-style barbs

BLOWGUNS & DARTS

Because bamboo is long, straight, and (mostly) hollow, it is a superb material for making blowguns and darts. However, because bamboo also contains nodes within its stalks, some precision effort is required to craft a blowgun. To do so, one first selects a stalk of bamboo of a desired length and diameter. Then, after removing all branches and leaves on the outside, the stalk is split in half down its entirety. Once split, the nodes within, which would otherwise prevent a dart from traveling through the tube, are removed and smoothed down on both halves of the bamboo. When this is accomplished, pine pitch, hide glue, bluebell root glue, or any other primitive adhesive is applied to the edges of both halves, and those halves are then joined and the glue allowed to set. If primitive adhesive is not available, one can instead use rawhide, sinew, or cordage and tightly and securely bind tie two halves together. It's essential with both adhesive and binding material to make a tight seal when the halves are joined, otherwise, the blowgun won't function. When the separate halves are joined, the blowgun is ready to use.

Darts can also be created using bamboo. To do this, large pieces are split into smaller slivers, and these slivers are then rounded and tapered to a deadly sharp point – essentially, they should look and feel like bamboo grill skewers (which can also be used as blowgun darts!). Once shaped, the dart requires a welt of fluffy fletching to catch the blown air inside the blowgun. This can be achieved by wrapping fur, cotton, cattail fluff, clematis fluff, usnea, or any other fluffy primitive material on the butt of the dart. If sinew or plant fiber is not available for this kind of binding, the fluffy plug can simply be inserted into the blowpipe after the dart, and can be retrieved after use.

As mentioned previously, bamboo can easily be used to make a variety of containers. In regards to blowguns and darts, a fat segment of bamboo with a bamboo plug or cap makes an excellent blow-dart carrying tube. All of these tools – blowguns, darts, and dart carrying containers – are traditional technologies of the indigenous peoples of southeast Asia, their efficacy proven through thousands of years of refinement and use.

Bamboo blowgun, darts, & dart quiver

Dayak bamboo darts & dart quiver

BOWS & ARROWS

Bamboo can be fashioned into a variety of simple survival bows and complex, heavy draw weight hunting and war bows. Since they're not exactly primitive, we'll exclude bamboo composite and bamboo-backed bows for the purposes of this piece.

The easiest type of bow that can be made with bamboo is called a bundle bow. It's exactly what it sounds like: a bundle of smallish bamboo rods that are grouped together into a coherent unit. This is accomplished using large amounts of cordage (or, in apocalyptic primitive scenarios, duct tape). The bundle of rods is thickest (i.e: most dense) in the center handhold of the bow, and gets thinner (less dense) toward the tips. Bundle bows are strung as usual, and can utilize any type of arrow.

Bamboo bundle bow

Another type of bamboo bow is the bamboo self bow, which can vary from a simple, low draw weight survival bow to the full hunting and war weight (~65#) Bhutanese bamboo bow, all dependent on the species (i.e.: strength and thickness) of the bamboo used. Such bows are made by splitting a large piece of bamboo in half, then using one of the halves to make the standard flat bow shape (usually "Holmegaard" style), with the outward side of the bamboo becoming the belly of the bow, and the inside of the split becoming the bow's back.

Using this method with small, narrow, weak, and ornamental species of bamboo will yield a low draw weight survival bow. These will range from 10 to 20# of draw, and are suitable for small game, like birds, rodents, squirrels, rabbits, etc.

However, as previously mentioned, the Bhutanese also make bamboo self bows that draw, on average, 65#. These bows were typically used for both national defense (i.e.: warfare) and hunting, and, compared to similar bows in other cultures (such as the Japanese *yumi*, which is a bamboo-mulberry composite longbow) are much simpler to make. To make such a bow, it is crucial to use a species of bamboo that is fat, wide, and has thick walls. These attributes are necessary for the tensile strength and explosivity required for a heavy draw weight bow. Once such a piece of bamboo is acquired, it is split in half. Then, at least in the Bhutanese style, one of the halves is cut in half at its midsection. The two resulting pieces are tapered into triangular flatbow-style limbs, which are then overlapped and bound together. Again, these limbs are made with the outer side of the bamboo becoming the belly and the inside of the bamboo becoming the bow's back. The overlapping and binding of the two limbs creates a middle and therefore handhold of the bow. Bhutanese bamboo bows do not have a shelf or arrow rest, and as such Bhutanese archers use their hand and index finger as a shelf. See the pictures below for a better idea of how these bows are constructed.

Bamboo survival bow;
note the center handhold segment, which is a piece of bamboo tapered off on either end

Bamboo survival bow in use, pulls 20#

Making a Bhutanese bamboo self bow; note the thickness of the bamboo species used

Finished Bhutanese bamboo self bow, bound with duct tape

Traditional Bhutanese bamboo self bows & archers

Bamboo arrows are even simpler than bamboo bows. There are two basic types of bamboo arrows, simple and unadorned bamboo arrows, and bamboo arrows with points or arrowheads. Simple bamboo arrows are made by cutting a straight piece of bamboo of the desired length and diameter (you know, the size and shape of an arrow!). The end that will touch the string should be cut just behind a node, then the nock on the arrow is cut (or filed) in so that the back of the node itself will touch the string. This creates a very strong, nigh unbreakable nock. The opposite end is cut at a 30 to 45 degree angle, which creates a deadly penetrating point to kill prey. The shaft of the arrow is smoothed down where the nodes protrude, fletching is bound and/or glued on as per usual, and this completes the simple bamboo arrow.

Bamboo arrows

The other type of bamboo arrows are made identically, except that the piercing end features a stone, bone, metal, wooden, or bamboo arrowhead. Such points come in a tremendous variety of shapes, sizes, and intended uses, and so the way in which such points are mounted to a bamboo shaft varies according to the type of arrowhead. However, usually arrowheads are mounted to a bamboo shaft in a technique similar to creating the nock on the rear end. That is, the piercing end is cut just past a node, then that end is cut or filed in half down to the node. Thus, the node becomes the backing that propels the point forward, and the arrowhead is lashed and/or glued into place in and around the two halves that join in the node. Other types of points can either be glued or pegged on top of the bamboo shaft (i.e.: the arrow shaft fits into the point), or are inserted and glued into the shaft (i.e.: the point fits into the shaft). See the pictures below for examples of all the various point types.

Bamboo arrows with bamboo arrowheads

Bamboo arrows with stone arrowheads

Naga bamboo arrow and arrowhead fitted inside the shaft

Broadheads meant to fit over a bamboo shaft

CROSSBOWS & BOLTS

Just as bamboo can be used to make bows, it can also be utilized to make crossbows, a technology that the indigenous peoples of southeast Asia have been using since time immemorial. Bamboo crossbows have four component parts that must be crafted separately and assembled to make the final product. The first is the body, which is essentially a straight, intact piece of bamboo that is cut to length. The second is limb, which provides the flexing and springing action, and which is roughly identical to the limbs of the Bhutanese self bows mentioned above. The third element of a bamboo crossbow is the string, which is cordage made from any material. And the forth and final component is the trigger mechanism, which is the most precise and difficult part of this tool.

Due to the difficulty in describing the manufacture of the trigger mechanism, it is beyond the scope of this publication to detail how to construct a bamboo crossbow from start to finish. However, there are many other resources on the internet and in books, and those interested in completing a bamboo crossbow are encouraged to research elsewhere. The pictures provided below should provide a coarse sketch for the truly enterprising.

As with arrows, so too with bolts or quarrels, which are the ammunition used with a crossbow. They are made in exactly the same manner as bamboo arrows, except that they're smaller and sized to fit the drawn crossbow.

Farhead Foe Teti with a self made bamboo crossbow

The author's partner with a bamboo crossbow and small bolt

Indigenous Hmong bamboo crossbow used for tiger hunting

KNIVES

Cutting tools are perhaps the most universal of all human tools; indeed, human life is arguably impossible (or at least very difficult) without them. Though they don't hold an edge or cut as well as stone and metal knives, bamboo knives have the advantage of being easy to fashion and extremely lightweight (plus, they'll get through metal-detectors!). Of course, one actually needs a cutting tool (ahem, knife) in order to actually make a bamboo knife, but there are probably situations in which one has access to a single knife and wishes to make others. In any case, any time a bamboo knife is desired, it can be made by splitting a large piece with thick walls into smaller segments. Knives are then carved out of the side walls. Spearheads can also be made in this way. See the pictures below for tangible ideas on how exactly to craft a bamboo knife.

Bamboo knife & sheath

Bamboo knife with hand contours

ROCK THROWERS/ATLATLS

This bamboo tool is a type of atlatl, but instead of slinging darts, it throws rocks at incredible velocities and distances. Used properly, this is one of the simplest and deadliest bamboo hunting weapons. The idea with this tool, as with all atlatl-style technologies, is to give the user leverage, allowing a projectile to be propelled much farther and much faster than a human is capable without a tool.

To make a bamboo rock thrower, simply select a piece of bamboo about two to three feet in length and of a diameter that comfortably fits in one's hand. Presumably, a longer pole-length thrower could also be made, but would almost certainly require two hands to use. Once a length is selected, it is halved on one end down to the first node and not past it. Voilà!, you're done. To use the rock thrower, place a rock on the node. The node holds the rock in place, and the backing half of the bamboo not only keeps the rock in place but also provides a channel for the rock to slide down as it is slung out of the thrower. Mastering the technique of using this tool with accuracy and proficiency takes a good deal of practice, but is well worth it, as it is a deadly and very simple hunting tool.

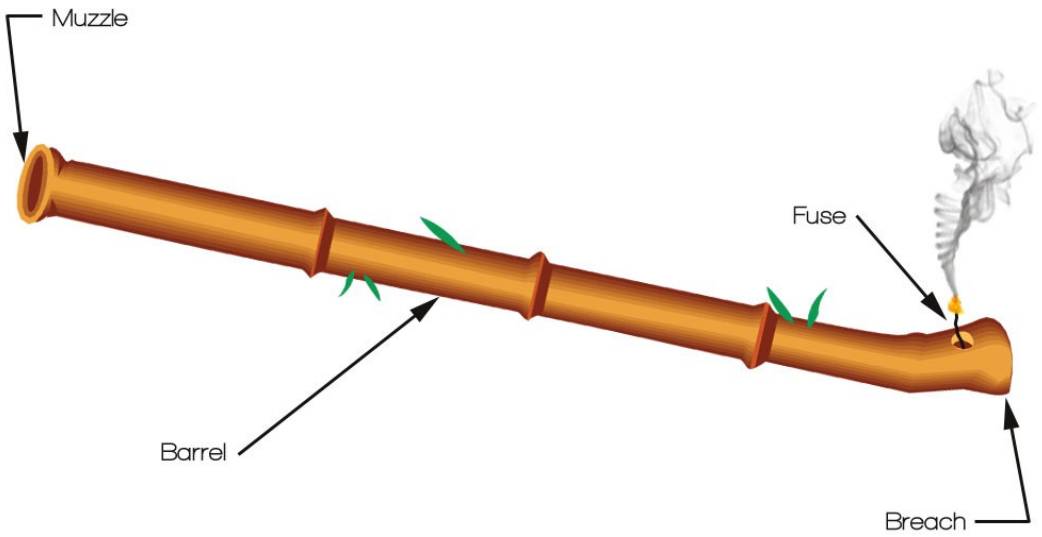
Two bamboo rock throwers, bottom one loaded and ready to sling

GUNPOWDER WEAPONS

It is well outside the scope of this publication to discuss the subtle artistry and diabolical science that comprises the making of gunpowder. However, if one already has access to gunpowder in a primitive or post-apocalyptic scenario, bamboo is a mountain of usefulness in cobbling together gunpowder-based weaponry. Smooth-bore, muzzle-loading pistols, rifles, and cannons can be made by cutting bamboo to size, splitting it, hollowing out the nodes, and joining it back together with strong glues and ultra-tight bindings. Then a fuse-hole is drilled in, gunpowder is loaded with a projectile coming after, and it's prepped to fire.

Likewise, bamboo can also be made into pseudo-primitive pipe-bombs. To do so, a segment of bamboo is cut with a node on one end and open on the other. The chamber is filled with gunpowder and small projectiles, and is then capped with a larger piece of bamboo that has a small hole drilled in its center. A fuse is inserted via this hole, and the hole is then sealed with wax or pine sap or pitch to keep it airtight.

Simple muzzle-loading bamboo hand-cannon



FISHING POLES

Perhaps the easiest of bamboo's sustenance-related functions is its use as a fishing pole. Using it for this purpose is done by cutting a small four to five foot length of bamboo and securing cordage (and a hook and bait, obviously) onto one end. Bamboo's intrinsic strength and flexibility ensure that even a small, narrow piece is unlikely to break under the strain of a struggling fish. Larger diameter bamboo rods can be used for larger, heavier aquatic game.

TRAPPING

PITFALLS, "PUNJI PITS"

This type of trap was employed extensively and effectively by the Viet Cong freedom fighters during the Vietnam War, and if it's efficacious against large game animals like human beings, it's certainly effective against smaller game like pigs, deer, rabbits, and so on. At its core, this trap is a pit in the ground with sharpened (tapered and spearlike) bamboo stakes planted in the ground within it. The rim of this trap is also sometimes lined with bamboo stakes that face inward and down, thus allowing prey to fall in but not to come back up or out. Because they're hollow, the bamboo lances can be slathered with poison or excrement (to induce septic blood poisoning) to ensure that prey animals die. The top of the trap is camouflaged with a variety of plant matter and detritus appropriate to the landbase on which it's being used such that it is invisible to those who aren't aware of its existence.

NOTE: These traps are brutal and can be lethal, but more often than not cause prey animals to bleed out slowly and painfully. Therefore, for the sake of merciful and compassionate trapping, make sure to check punji pits once or twice each day they're in use, and in the event that they have successfully trapped game, end the animal's suffering as quickly and painlessly as possible. Also, these and all other primitive traps are illegal in the United States and probably elsewhere, so take care to avoid getting caught by nosy authoritarian fucks when deploying them.

Bamboo stake pitfall trap

CLAP TRAPS

This type of trap is quite simple to construct and is suitable for small to medium game animals. To make a clap trap, select a standing (live or dead) piece of bamboo that is firmly anchored in the ground. Cut it across the stalk horizontally about two feet off the ground, then split the two foot tall remaining section in half down to the first visible node above the ground. Then, the two pieces created by the split are pulled apart, which ought to be difficult as they are still attached. A smaller stick or piece of bamboo is placed in the resulting gap, and must be strong enough to keep the two halves separated and under tension. Then, bait must either be skewered onto the stick that separates the two halves (thus making it the bait-stick AND the trap trigger), or a piece of cordage with bait tied to it can be fixed to the trigger mechanism. If using a bait cord, the cord must be quite short, as the prey animal's head must be between the two halves of the trap to effectively be killed. Otherwise, if the bait cord is too long, an animal could potentially remove its head and the bait from the kill zone before triggering the trap, thus getting a free lunch and leaving you skunked!

Whichever method one chooses, the trap works the same way. When a prey animal comes along and takes the bait, this dislodges the bait-stick/trigger mechanism, which allows the two halves of standing bamboo to snap shut. Ideally, when this happens the animal's head and neck are within the area where the two halves will slam together. When this trap works properly, it will not only kill (or, at worst, severely stun) the trapped animal, but it also emits a loud and piercing clap which will alert the user to its activation.

FISH BASKET TRAPS

Not much needs to be said here that hasn't already been discussed in the section on weaving. One of primitive basketry's many uses is as a trap for fish, crustaceans, and other edible aquatic creatures. The pictures below paint a diverse portrait of the huge variety of bamboo fishing basket traps in use across the world.

Bamboo fish trap in the Philippines with ample catch

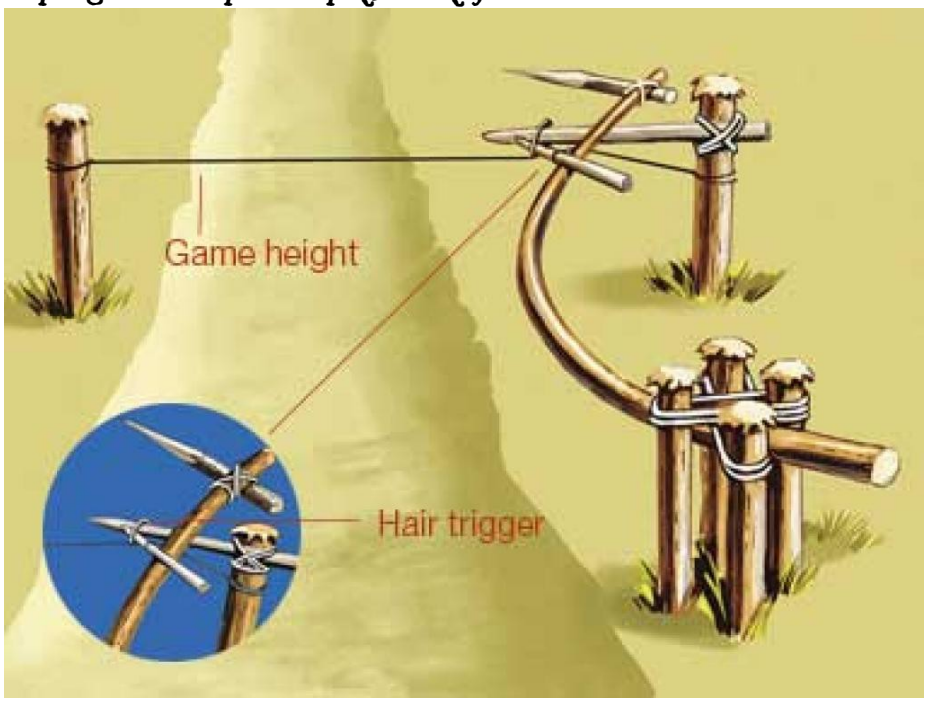
Bamboo fish trap fir small river fish

Bamboo crayfish trap

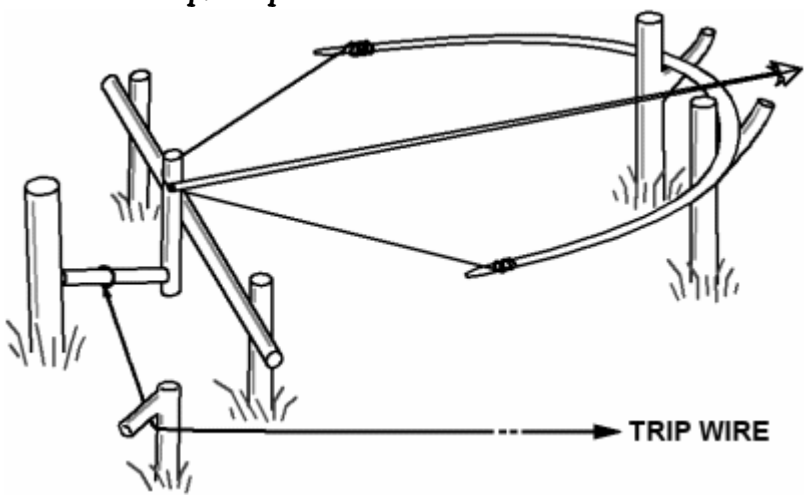
LEVERED SPIKE TRAPS, BOW TRAPS, & OTHER APPLICATIONS

When a lot of folks think of primitive trapping, they conjure up images of Rambo-style spikes and tripwire sort of traps. These traps are totally viable as a hunting method, but are typically made from malleable green woods. Bamboo can be used or substituted for each and every part of such levered spiked traps. Likewise, a few primitive trap designs exist that take advantage of a bow or a bow-like limb to provide the lethal springing mechanism. Bamboo bows, discussed in an earlier section, can be used to concoct traps of this sort. Due to its versatility, bamboo can also be used in place of wood and other organic materials in just about every well-known and proven trap design. For example, bamboo sticks can be used in a Paiute figure-four deadfall trap and every part of a traditional snare trap (including the cordage) can be made with bamboo.

Spring snare trap with spikey stick of doom; can be made with bamboo



Bow trap; all parts can be made with bamboo



Paiute deadfall; can be made with bamboo

Tilong rodent trap, mostly bamboo

MISCELLANY

BOMBILLAS & STRAWS

Bombillas are a traditional South American method of drinking yerba mate from gourds, and are essentially bamboo straws. They are used to consume the liquid drink without getting a mouthful of plant matter every time a sip is taken. Bamboo straws such as these are quick and simple to craft. A small, straw-sized segment of bamboo is cut and shorn of branches and/or leaves. Then, it is cut with one end closed in a node and the other end open, creating a hollow tube with a terminus. The end with the node is then perforated with a number of small holes of a diameter large enough to permit the flow of liquid but small enough to prohibit solid matter from passing through.

Bamboo bombillas

SPOONS & SCOOPS

Bamboo spoons can either be carved into smooth, ornate contemporary cutlery or can be made with simple, archaic methods. Either way, they're easy to make, durable, and pleasing to behold. Their method of manufacture should be self-evident from the pictures below.

Contemporary bamboo spoons

Bamboo scoops & spade

SMOKING PIPES

Bamboo smoking pipes are as easy as fitting a smaller hollow piece of bamboo into a slightly larger bowl that ends in a node on bottom and is open on top. They're absurdly easy to make and smoke very smoothly.

Bamboo smoking pipes

RAFTS & OARS

Crafting bamboo oars is identical to crafting bamboo spoons, except on a much larger scale. If one is too lazy to actually shape the paddling end of an oar, small water vessels can also be propelled with simple bamboo poles (as with pole-boats). Bamboo rafts and boats are also a possibility, given that bamboo is hollow (i.e.: full of air pockets) and therefore floats quite well. Bamboo oars and watercraft are both traditional and widely used technologies throughout Asia.

Bamboo rafts & oars

WRITING IMPLEMENTS, CALLIGRAPHY PENS

For many centuries in Japan and China, bamboo has been used to create calligraphy pens. Making writing implements such as these is done by tapering one end of a pen-sized stick to a point. A plethora of point sizes and shapes can be achieved to conform to the desired writing stroke.

Bamboo calligraphy pens

FLUTES & PAN FLUTES

When a hollow length of bamboo that terminates in a node is blown on, it resonates and creates a note. Observing this, clever musicians in Asia and South America have made bamboo flutes and pan flutes for centuries. The author personally has no knowledge regarding the crafting of bamboo flutes. However, pan flutes are quite easy to fashion. In essence, a number of bamboo tubes are selected, cut and sized to a particular note, and then lashed or glued together with bamboo supports backing them. Typically, at least for the Western ear, at least 8 pipes are desirable so that a full scale can be achieved. These need not be a Western major scale, but can be a Western minor scale, a Phrygian modal scale, or any other desired collection of notes. Making a pan flute is easy – learning to play it adroitly is another matter!

Bamboo flute

Bamboo pan flute

MARIMBAS

Though the author has absolutely no conception how to even begin cobbling together a bamboo marimba, this brilliant use of an already brilliant material merits inclusion simply because it's so cool. Check it out:

Bamboo marimba

Mammoth, poly-scale bamboo marimba

WINDCHIMES

Bamboo windchimes can be made by stringing up different lengths of bamboo (usually each a note in a similar scale). These pieces can be open on each end, or can be open on the downward-facing end and ending in a node on the upper end. Certain designs also cut away half of the bottom half of each segment to maximize resonance, but it's not necessary to do so.

Bamboo windchimes, tapered (left) & untapered (right)

LADDERS

There are two basic designs for bamboo ladders, the rope ladder and the standard all-bamboo ladder. The only element that differs between these two designs is the upright supports, which on the former design are (as the name suggests) rope or cordage, and on the latter are solid bamboo stalks.

Rope ladders are made by collecting the desired number of steps (in the form of bamboo pieces), drilling or cutting holes through each end, and lashing the whole contraption together with a length of rope on either side. When completed, the rope ladder is hung up for use. The all-bamboo ladder is similar, except that the uprights on either side are not rope but are instead solid long stalks of bamboo. The steps are either pegged and lashed into place, or are cut to fit into notches that are themselves cut into the uprights and then lashed, or are shoddily lashed together without physically joining them. Whichever of these three methods is used, the all-bamboo ladder will almost always be more rigid and more durable than the rope ladder, but also less flexible.

Bamboo ladders, all-bamboo (left) & rope ladder (right)

Bamboo ladder, joined with peg & later lashed for stability

Bamboo ladder, cut to fit on each piece then lashed

Rowan WalkingWolf, 2015