

RAFTS

by
Oliver Cameron
with Ole Wik

At the camp in Norway, they planned a dinner on a little island a little ways out in the lake from the boat landing. The challenge to the guests was to assemble a raft and relay their whole party to the island in order to get their meal.

I made a small raft out of spruce logs, purchased from a sawmill. It was such a popular project that Rein wanted a larger one, so the next year I made another one, roughly the same way.

One of the challenges was to stabilize the logs. I made some dogs, a little over one foot long, out of lightweight rebar—about 3/8” diameter, or maybe a little bigger than that. I put the ends in the fire and drew them out to points, and then bent about 1-1/4” at each end at right angle, with both points pointing in the same direction. They were like big staples that you could stick into the tops of two logs that were lying side by side, to keep them from rolling.



Example of a steel dog.

<https://www.facebook.com/autinetools>

Then I made a couple more the same way, except that the points were at right angles to each other. You could stick one of those into the side of a log that was on the ground.

The log you were working was on top of that log. You could put another one on the other side, and then put the first kind into the end to help stabilize it.



Heidi Dammann and Oliver begin working on the raft. Note the steel dog holding the logs behind Heidi. The raft will be pushed down the skids into the water later.
Photo: Anne Kirsti Augestad.

Then I shaped the bottoms of each log so they would move through the water fairly easily. I smoothed the bottoms off good and hewed the fronts, so that they were like a small boat.

The front ends weren't blunt like those of the big dugouts—they tapered quite a bit, so that it was easier to push water aside. I tapered the backs a little too, starting maybe 16 or 18" from the end, so that there would be something for the water to push ahead once the raft got moving.

I used six logs in each raft. To make the raft more stable I left a gap in the middle. The gap was 2' and the three logs on each side took up about 3', so the whole thing was about 8' wide.

When I got all of the logs ready, I laid them on the ground in the positions that they would have in the water, and marked out a channel about 5" wide near both ends. Then I cut a crosspiece that fit in that channel, sort of like a key. I left those sticks slightly longer than the width of the raft.



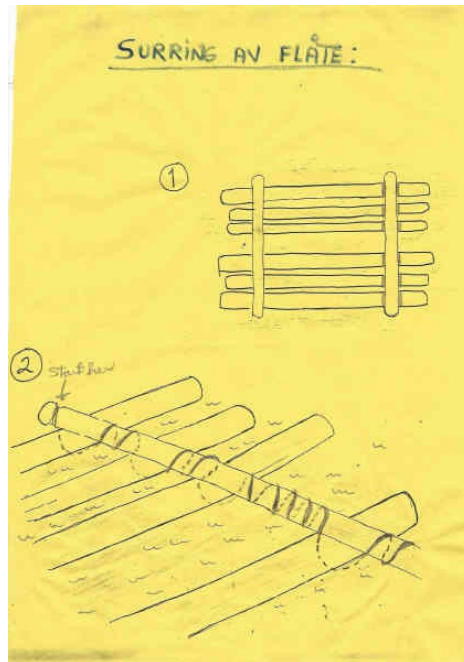
Heidi Dammann visits with a visitor as Oliver works with a chisel and a homemade club on a crosspiece. Note the channels in the logs that are floating in the lake.

Image: Anne Kirsti Augestad



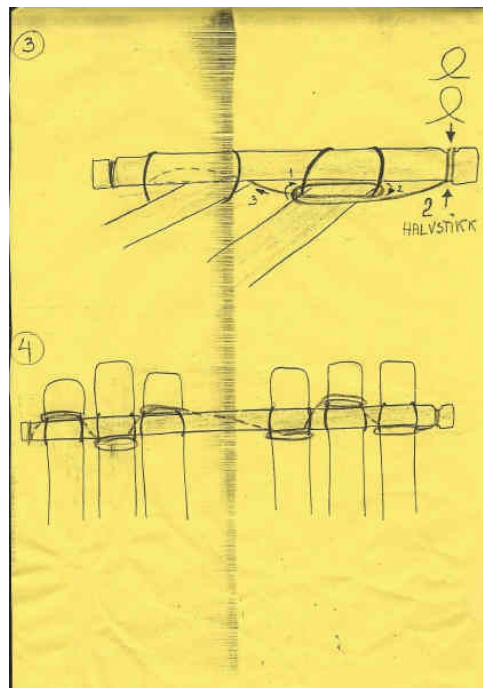
Oliver and Heidi Dammann work on another raft, without a gap in the middle, as Tonto looks on. Photo: Anne Kirsti Augestad

I tied a rope to one end of the crosspiece, ran it under the outermost log, up and over the crosspiece, down and under the next log, up and back across the crosspiece, and down under the third log. I wrapped it around the crosspiece a few times to reach the other side, and lashed the other three logs the same way.



Lashing one of the crosspieces to the logs of the raft.
 Drawings by Heidi Dammann and Anne Kirsti Augestad.

Then I took the end of the rope that was left over and went back to tighten up the lashing. There was quite a gap between the strands where the rope came up one side of the crosspiece, over the top, and down the other side. I took a half hitch around those two legs, drew them up tight, and then moved on to the next pair. By the time I got all the way across the raft, everything was really snugged up. And then of course I tied the rope off at the other end.



When I was designing that tightening system, I had to keep in mind that it was very likely that the people who would be assembling the raft would have had very little experience with lashing. I tried to make it as simple as I could and yet make it tidy, so that Rein or Heidi could demonstrate what it was like and have them finish it well. Heidi commented that she was amazed that things could be tied up that simply and made up so tight and snug.¹



Launching the raft. Photo: Heidi Dammann

Rein and Heidi put down some short boards, maybe 8 or 10” wide, so that the people wouldn’t put their feet down between the logs. I think the lake was shallow enough that they could pole the raft most of the way out to the island, but they also had paddles that they could use. I made them early in the year, so I wasn’t around when they used them.

I was never there when they used the raft either, but they did use it several times. It was a very popular project. They’d have a different group about every week or so, and I guess all of the groups would use it, unless the weather was too cold.

Did you make any rafts in Alaska?²

I made several rafts of dead poles that I had gathered up. They were long and fairly narrow, and I just tied them together, without any crosspieces on top of them.

On one trip, though, I had quite a bit of wood, so I laid sticks across and then put another layer of logs on top of those. The lower logs, which were larger, were completely down in the water.

Those logs were mostly for firewood, but I ended up cutting a few of them into lumber. I made a homemade chainsaw mill to cut them with, but it was hard on the bar and chain because I didn’t get the grit cleaned off as good as I should have—that was very difficult to do. What I should have had was a pump with a hose and a nozzle so that I could turn a strong stream of water on the logs to wash them off good.

This was on the Ambler River. One of them was quite a ways up the river.

There was quite an ado when the BLM or somebody came around. People were complaining about other people cutting wood right next to them, or taking wood they had cut. That sort of thing did happen, so they set up a deal where people could apply for cutting permits on certain areas.

There was an area up above the Redstone River that was set aside for anybody. I got one of my rafts up there. One other was along a creek lower than that. It was quite a bit closer than going all the way to that open use area. I went in there fairly often to fish for grayling.



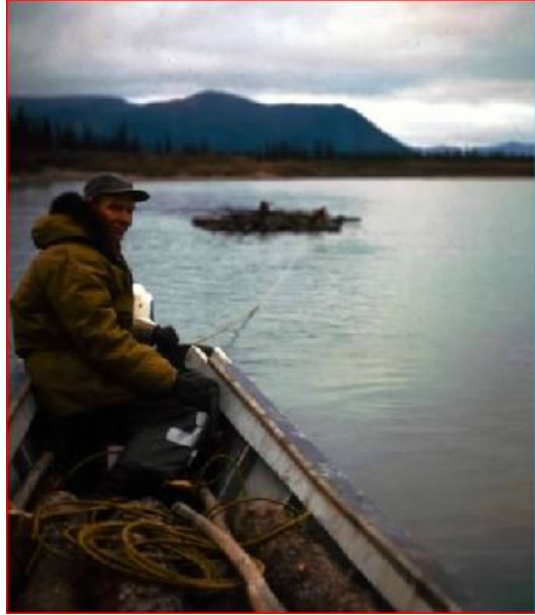
Ken Ross preparing to bring rafts of firewood logs down the Ambler River, August 1966. Image: Pam Ross

There was quite a stand of dead trees, probably bug killed, so I made a raft of them. I started by tying the end of a rope to the first log. Each time I added another log, I made a clove hitch or a couple of half hitches around it. If I hadn't done that, the logs would have been free to move around, and the middle ones would have slipped out and gotten away from me as I towed them home.

At the back of the raft, I didn't bother to hitch all of the logs together. I just tied a second rope to the two outside ones, to keep them from fanning out.

What about propulsion?

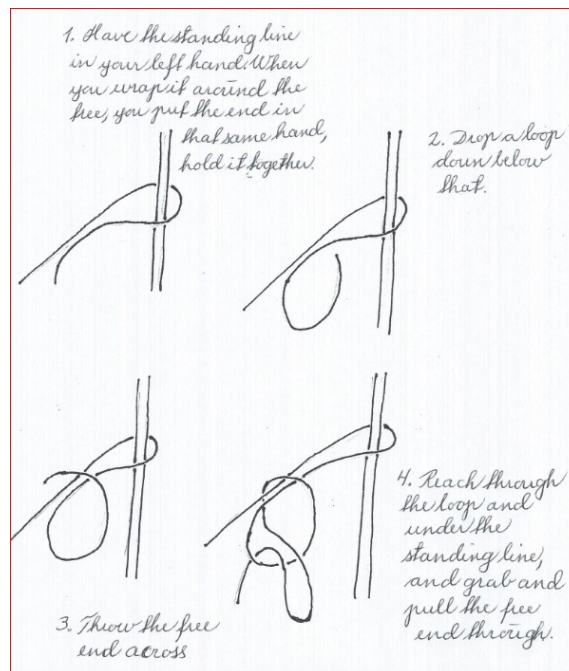
The raft had a yoke on it, and I towed it with a boat. I let the current do most of the work, but towed it just enough to keep it out in the current where it wouldn't hang up. When I got home, I had one of the kids run the motor. That was in the days when the children were still at home. Ricky might have been away going to college at that time, but Dorene and Gary were home.



Oliver towing a log raft down the Ambler River. Image: ?

We had a long rope and let it out and get way ahead of the raft. There was a tree close to the river just a little bit up the river from our place. When we came down, I took the tow line loose from the boat, jumped ashore, and ran up and wrapped it around the tree a time or two.

I made a hitch that's meant for tying up dogs or horses. I guess you call it a hitching tie. You go around the tree and you have the standing line in your left hand if you're right handed.



Oliver's hitching tie.
Drawing: Heidi Dammann

When you wrap it around the tree, you put the end in that same hand, hold it together, drop a loop down below that, throw the free end across, reach through the loop and under the standing line, and grab a loop of that and pull it through. You then have a kind of slip knot there.

It's quick to do, and easy to undo. It lets you hold the standing line so that it isn't pulling strongly against your hand while you're tying the knot. When the raft drifted down far enough to tighten up the rope, it would swing close to the shore.

I had some pretty good size logs on the beach. I'd put a couple of them down to the raft, with the small ends out in the water just a little ways under the raft, to serve as skid poles. If I needed to, I could tie them to stakes so that they wouldn't move around.

Then I tied the end of a rope either to a stake or to the end of one of the skids. It was basically a barrel roll rope setup³. Since one end of a log is bigger than the other, I could pull the rope at an angle to keep it from creeping toward the thin end.

The logs of the raft were not very big. I pulled three or four of them up and blocked them so they wouldn't move. Then I stacked the next logs by shifting them on top of the others. I'd pull up one end, twist and lever the other end, and roll it a bit so that it would fall a little ways behind the others. The skid poles were long enough that I could roll all of the logs of the raft onto them.

Have you ever read *Kon Tiki*?⁴

Rein's father started a grassroots movement called *The Future in Our Hands*⁵. Thor Heyerdahl was a member of that group. He was living on an island in the Pacific, and Rein's father took his family and visited him there one time. That raft is in the folk museum or boat museum in Oslo. I saw it there.



The Kon-Tiki.

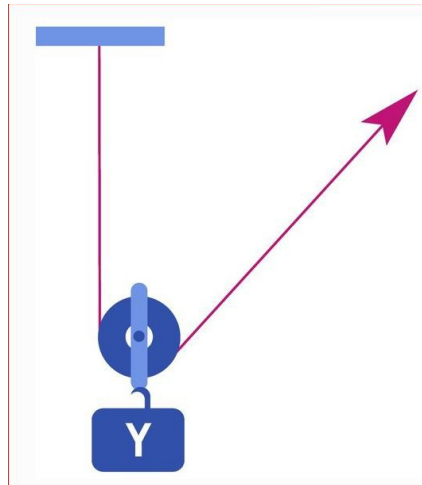
Image: <http://www.opentopsightseeing.no/filer/bilde/oslo/kon-tiki-980.jpg>

1) There is another way I could have done that. I could have cut a groove with tapering sides in the top of the logs, such that the bottom of the groove was wider and the top was open just a little bit, and made a key that would fit into those dovetail notches. However, that would have been harder to assemble. You'd have to be in the water in order to shove

that key through all of the logs, and then put a pin in each end of the key to keep the outside logs from getting away.

2) This essay stems from a series of telephone conversations that Ole Wik had with Oliver between December 2007 and February 2008. Highlighted text indicates remarks made by Ole.

3) A “barrel roll setup” describes a system based on the principle shown in this diagram:



In Oliver’s example, the log was at the position of the pulley in the diagram, and was also the load. The fixed end of the rope was attached to a stake on the beach, or to the end of one of the skid poles.

By pulling on the free end of the rope, Oliver only had to exert half of the force that would have been required had he tied it to the log and then pulled the log directly up the ramp.

Image source: <http://www.mechanicalaptitudetest.org/tag/mechanical-aptitude-pulley-question/>

4) See http://en.wikipedia.org/wiki/Kon_tiki: “This article is about the raft used by Thor Heyerdahl to sail across the Pacific.”

5) See http://en.wikipedia.org/wiki/Erik_Dammann. “Erik Dammann (born 9 May 1931 in Oslo) is a Norwegian author, environmentalist and government scholar. He is mostly known for founding of the Norwegian-based organization, The Future in Our Hands (Framtiden i våre hender).”