# OKAY SO YOU WANT TO PADDLE OUTRIGGER CANOE!

## It's Easy! (No...) It's Fun! (Most of the Time...) It's Good for You (Unless you get Hurt...).


This is a guide designed to introduce you to the basics of outrigger canoeing. It is only a guide. It will not make you and outrigger paddler. It may make it easier to become an outrigger paddler. Before we start we should get a few things out of the way.

1. One thing you need to get over is the idea that if you don't catch on in 3 or 4 practices that you should quit. Do not quit. After nearly 3 decades of paddling I still learn something new every couple of times I am out in a canoe. Everything I learn makes me a better paddler. I am hopeful I can pass some of that knowledge on to all of you.
2. Another thing you need to know is that in the early stages, even if you are coming from another paddling discipline, you will not have the physical strength to utilize good technique. Good technique requires substantial sport-specific fitness and strength. Don't expect it to happen all at once. Focus on technique and the strength and fitness will come. The stronger and fitter you become the better your technique will be.
3. Lastly in the category of "things you need to know before you decide to quit" is that in the early going you should focus first on simply trying to keep in time with the other paddlers in the canoe. This sounds a bit obvious and easy but it is more subtle than you might at first think. Being in time means getting your paddle in and out of the water at the same time as the other paddlers but it also means applying power at the same time and in the same way. Once you are confident you can keep perfect timing then begin to focus on the specifics of

technique. Once you can keep in time and have the basics of good technique you can begin to pull on the paddle a little harder. Remember this though: any reasonably fit and strong person can pull like there is no tomorrow on the paddle; this will not, repeat will not move the boat efficiently. Focussing on the effort in the pull will throw your timing off to start with, it almost necessarily will involve the exercise of bad technique and then you will get tired and add very little to the canoe's progress.

4. So in conclusion the approach to outrigger in the early stages should be first **timing**, then **technique**, then **power**. If you do not approach the task in this way you will not add but only detract from the collective effort to make the canoe go. THIS IS A CREW SPORT SO CONTRIBUTE AS A MEMBER OF THE CREW!!

## FIRST THINGS FIRST

The first thing to learn if you are serious about paddling outrigger is that the phrase "pulling a paddle through the water" is a fiction. You do not pull the paddle through the water unless you do not want your canoe to move forward. You lock the paddle in the water and pull yourself and the canoe to where you have locked the blade. The canoe moves underneath you and voila, you have pulled the canoe to the place you originally inserted the blade in the water. If you keep doing this, the canoe will move forward at a more or less constant speed. The more efficiently and faster you do this, the faster the boat will go.

This is a very important concept to tattoo on your paddling cerebral cortex: **Lock the paddle in the water and pull yourself to it.**

Okay, how does one lock the paddle in the water and pull oneself to that point? You **catch** (the water) and you **pull** (the canoe). Catch and pull, catch and pull, catch and pull (and **exit** and **recover** so that you can catch and pull again). These are the four phases of the outrigger canoe stroke.

We will now need to talk about positioning in the canoe so that you can catch and pull over and over.

## POSITIONING IN THE CANOE

Sit in the canoe with you legs in front of you and your thighs more or less parallel to the gunwale (the edge of the canoe hull). It is sometimes helpful to sit forward on the seat to have only your butt, and not the backs of your thighs, in contact with the seat. This allows for easier **rotation** which we will talk about later. Try to keep your legs off the side of the hull. This not only interferes with rotation but also forces the canoe to torque underneath you and can contribute to the canoe rolling side to side during its progress.

Let your shoulders relax and roll forward slightly. There are no points for good posture in an outrigger canoe. Remember that whatever energy you expend doing things that do not move the canoe forward is energy taken away from the primary task. Let good technique dictate your posture. **Form follows function.**

Your trunk should be leaning forward slightly about 5-10 degrees from vertical. The farther forward you lean the harder it is to breathe. It also impedes rotation. This lean angle should not vary much through the stroke. In other words one does not lunge forward or down and then sit up through the stroke. Lunging makes the canoe bounce which is bad. It also tends to give the paddler the illusion that he or she is really reaching forward to catch but it is only that, an illusion. The lunged paddler is in a very poor position to catch, to rotate, to pull, and is using excessive energy in returning the trunk to vertical which does not generate forward progress for the canoe. You just get tired.

So there you are seated in the canoe. You are going to need a paddle if you intend to make the canoe go so we should talk about grip.

## PADDLE GRIP

Your **top hand** is on the handle. Do not grip it; caress it. If you have a death grip on the handle you will exhaust your forearms prematurely. It is also unnecessary. At the beginning of the power phase of the stroke (the part of the stroke when your paddle is in the water propelling the canoe) , you push down on the paddle through your palm.

The direction of pressure should be down the shaft. Whatever direction the shaft is pointed, apply pressure through the top hand in that direction. This means that top hand grip is unnecessary. The pressure through the palm and down the line of the shaft will ensure that your top hand does not lose contact with the paddle. When it comes time to end the power phase of the stroke, you simply cease the pressure down the shaft, hook your thumb under the handle and pull the top hand up and forward. This is a subtle move and will require some practice.

Okay now the **bottom hand**. It pulls mostly. When you begin the power phase of the stroke, you grasp the shaft with the bottom hand about 2-4 inches (5-10 centimetres) above the beginning of the blade itself with all four fingers. At the catch you will need to grip the shaft with the bottom hand briefly to assist in driving the paddle blade into the water. As soon as your blade is in the water relax your thumb. It plays no part in the stroke until the end of the power phase of the stroke. Pull on the shaft with your bottom hand as if you were pulling on the handle of a very heavy door. If you pull hard, you do not need to grip the shaft at all. Also if you do not grip the shaft you will not angle the blade away from perfectly perpendicular to the direction of motion. An angled blade is a slipping blade.

When you end the power phase (the **exit**) and begin the **recovery** phase (the part where the paddle blade is out of the water), you make a circle with your fingers and thumb and encircle the shaft with your hand. Again do not grip it. The top hand pulls the paddle out of the water and the bottom hand guides the bottom of the paddle back to the position for good catch. Concentrate on relaxing the fingers that are doing the pulling. I actually flick my fingers off the shaft (stretch them out) during recovery every couple of strokes to ensure I am not unconsciously gripping unnecessarily.

Now you know what the bottom hand does.

## STROKE - GENERAL PRINCIPLES

Of course the above is an oversimplification. It is not just a matter of pushing down with the top hand and pulling with the bottom. Here we come to a difficult concept.

Imagine the paddle shaft to be part of a pendulum with the blade the pendulum weight. The (virtual) fulcrum or pivot is **above** the top hand; it is not the top hand or anywhere along the shaft. The top hand applies pressure down at the catch and through the stroke and **follows** the bottom hand following a course like a letter J on its side.

How can this be? Why does it do this? It is simple. The longer the paddle blade is vertical in the water the more water it will hold. The more water it holds the more you can pull on it. The more you can pull on it the better and faster you can make you canoe go. Therefore one has to attempt to keep the shaft essentially vertical through the stroke.

If you were to only pull with the bottom hand using the top hand as the pivot, at the catch the paddle blade would be pointing slightly down, (which creates lift and makes the canoe light and is a good thing), then as you pull back it the blade would be pointed directly back (good for propelling the canoe forward), and then towards the end of the power phase the blade would begin to point up towards the surface of the water. Pointing up is bad. It lifts water and pushes the canoe down into the water all of which slows the canoe down. Your crewmembers will not thank you for this.

How can you keep the paddle blade more vertical for more of the power phase? By allowing the top hand to follow the bottom hand changing that pendulum fulcrum incrementally every moment of the stroke. It is as if the pendulum were swinging on a pivot that moved in the direction of the pendulum weight. This may not work very well in the world of pendulums but is perfect for a canoe stroke.

Okay, so we know we have to keep the paddle shaft as vertical as we can and we know why. Now, how do we do it? It is easy to talk about the top hand following the bottom but if you just sat in your seat in the canoe and followed the bottom hand with the top, you would end up using quite small muscles and be in a really awkward position to apply power to the blade. Enter **rotation.**

## ROTATION

Pulling with your back is more effective than pulling with your arms (because you are using bigger muscles more suited to the work), so you want to move the blade with your back through as much of the stroke as you can. The closer your shoulders are to neutral (perpendicular to the line of the canoe), the harder it is to employ your back. The farther forward you can put your outside shoulder (the bottom hand shoulder), and the further back you can put your inside shoulder (the top hand shoulder), the more you can reach forward and therefore the more you can pull with back and torso muscles. This is **rotation**. You rotate from the base of your spine.

If all you did was rotate, you would be able to reach nicely forward in order to maximize the pull with the back, but you would miss the water at the start of the power phase. Your paddle blade would be too high. You would miss the catch. So you have to rotate from the base of your spine, **drop** the outside shoulder, and raise the inside shoulder. The top hand must be in the same plane above the bottom hand.

Okay now the top hand is over the bottom hand, the outside shoulder is dropped, the inside shoulder is raised. Where is your butt? Where it ought to be; flat on the seat. Lean out with your trunk, but do not lean out like the trunk of a tree. Arc your trunk from your butt.

Next we will talk about how to orient your hands to the canoe.

## RULES OF THUMB

Where are the hands relative to the gunwale? you ask. Maybe you don't but you should. The location of the hands relative to the canoe is important because it allows you to optimize your mechanical advantage. If you reach too far away from the canoe, you lean out too much and will have to employ large weight shifts from the paddle in the power phase to the canoe in the recovery phase. This is energy wasted and it also rocks the canoe. However if you are too close to the canoe you will not be able to apply pressure to the blade.

It is time to introduce the **Rules of Thumb**. The **top thumb** is over the gunwale of the canoe through the entire power phase of the stroke. The **bottom thumb** is about 2-4 inches from the side of the hull though the entire power phase of the stroke. Watch your stroke. Check to see if you are doing this right every switch of sides. If you follow these rules you cannot go wrong. You will have a vertical shaft. You will be pulling the boat forward and no other direction.

Another way to ensure you are in the proper position for good technique is to have your nose roughly over the gunwale of the canoe over the entire power phase of the stroke. You will be looking down the length of the canoe toward the bow. If your nose is over the gunwale, your trunk, shoulders and back will be in the proper position to take a good, strong stroke.

## SUMMARY

Alrighty then. Where are we? We are in the canoe. We are sitting relaxed leaning 5-10 degrees forward. We have a flat butt. We have dropped the outside shoulder and raised the inside shoulder. We have the top hand over the gunwale and the bottom hand about 2-4 inches from the gunwale. We have rotated from the bottom of our spine. Our bottom hand has a gentle but secure grip on the shaft about 2-4 inches from the top of the blade. Our top hand is caressing the handle with the palm over and thumb under the handle. We are prepared to take a stroke and we know we have to push down with the top hand and pull through with the bottom hand. What next?

What next is where to enter the water (**begin power phase**) and where to exit (**begin recovery phase**).

## CATCH

Okay now we have hand placement and butt placement and arm placement and shoulder placement and all of that. We now need to know how to initiate the stroke.

There you are suspended over the water with the blade hovering over the surface. Your blade is about 3-5 inches above the water. Your top hand is high over the gunwale, bottom hand right alongside the gunwale about 2-4 inches away. You are feeling like you are going to fall into the water because your weight orientation is all out of the canoe WHICH IS EXACTLY HOW YOU SHOULD FEEL! You want to apply pressure through a weight transfer onto the blade and you might as well use gravity to help you. As you drive the paddle into the water, drop your shoulders onto the blade and plunge it into the water as if you were trying to get the blade into quick-setting cement before it hardens. This is catch. Bury the blade completely right at the start of the stroke and not as you pull through. There is nothing subtle about this motion at all. Think of it as a mini-explosion; you explode your energy at the catch. The more blade you have in the water the harder you can pull on it. Try this out yourself. Put a half blade in the water and pull hard. The paddle will cavitate. That means water the water will wash off it and under it and over it and it will come through really quickly...but the canoe won't move forward. If your blade makes noise in the water it is cavitating. The goal is to have a quiet blade.

Always try to reach as far forward as you can by rotating, not lunging or leaning, and drive the paddle into the water where you have reached farthest forward. Now think about this; can you do this if your bottom arm is bent at the elbow? No. Also if you want to engage your back and trunk and shoulders and not small muscles in the arms, do you want bent arms? No but...you must bend the upper arm at about 30-45 degrees from perfectly straight to create the best angle for catch and pull. Whatever you do, do not bend your arms to move the paddle.

This is critical because "at the catch" is when you are reaching farthest forward. It is the point at which you have the most mechanical advantage. It is theoretically the best part of the stroke. If you do not maximize this part, the stroke will be a compromise. Also, it is the point at which the boat is going slowest, because the catch is the point at which the paddles have been out of the water longest. So, the catch also serves to accelerate the canoe. It is VERY IMPORTANT.

## PULL THROUGH (APPLYING POWER TO THE BLADE)

Once your paddle is in the water and the blade is locked, you have "caught" the water. Now is the time to apply pressure to the blade to propel the boat. Catch is not simply a matter of driving your paddle blade into the water. It is a multifaceted action. In order for you to actually catch the water, you have to pull back as you bury your blade. But be careful; do not begin to pull back until the blade is nearly buried. The more blade is in the water, the harder you can pull.

Once you begin to pull back, know that is what everyone else in the canoe is doing at the same time. So as a result the canoe is accelerating. If the canoe accelerates, so must your blade so that the pressure is maintained on the blade propelling the canoe forward. The harder you pull the faster the canoe goes. The faster the canoe goes the faster your blade must go to continue to propel the canoe. So accelerate your stroke right up until you pull the blade out of the water at the exit. In order to apply pressure to the blade to propel the canoe you must push down on the handle and consequently down the shaft. If you do not the blade will pop out of the water. At the same time, you have to pull the shaft towards you, remembering always to pull with your back. Let the top hand follow the bottom hand to maintain a vertical blade.

When you get to the end of the power phase of the stroke, (when the blade is about even with your hip and your bottom hand is past mid-thigh), give the blade one last pull. This pushes the canoe off and forward and assists in loading up your paddle so it wants to jump out of the water. This pushing off is very important as there is a tendency to let the paddle drift past you at the end of the power phase. The drift of paddle blades creates drag, which literally takes away from the work you have just performed in propelling the canoe. Remember always to have an active paddle, and never passive. Jump on the catch. Accelerate the blade. Push off.

## EXIT AND RECOVERY

When you get to the end of the power phase of the stroke, you want to get the paddle out quickly and efficiently. This is called the **exit**. You do this by lifting with the top hand. But it is harder and harder to get the blade out the farther you pull

back. Also, the farther back you pull, the more "up" angle you have on the shaft, and hence the blade. Up angle is bad. So keep your hands in front of you throughout the stroke so that you can see both of them without having to turn your head. Do not pull past your hip with the blade (which equates roughly to a point about three quarters along your thigh moving in the direction of your hip).

Now **recovery**. The term actually refers to two different things; it means to recover the blade back to the point of catch. It also means recover in the sense of rest, because we rest when the blade is in the air. We are not performing work during this phase of the stroke. How does one recover? You shift your weight subtly from blade to butt. You swing your paddle blade up and out to the side just enough to clear the surface of the water. You effect this movement out by dropping your top hand slightly inside the hull line of the canoe and drop your inside shoulder at the same time. You rest your hands, because you are not applying force to them. The only force applied is to the thumb of the top hand and the thumb of the bottom hand. The top hand lifts and comes back while the bottom hand pulls up and away from the canoe's hull and follows an arc from that point out and away and then back towards the hull to get to the catch position; poised over the water with the top hand high, bottom arm nearly fully extended, outside shoulder dropped, and the inside shoulder raised and ready to drive the paddle down into the water.

If you can imagine this, the paddle stroke looks roughly like a letter "D" looking down from above. It is a regular "D" on the right and a reversed "D" on the left. The straight part of the "D" is the pull or power phase, while the back of the "D" is the movement of the blade on the recovery.

## AND FINALLY...

So now we know about catch and pull and exit and recovery. When you put it all together, you do it about 58-64 times a minute. This makes the canoe go and if you do it all together it can make the canoe go very well indeed.

There are lots of other things we can do to make our stroke superior. But these are the basics. They should be reflected on regularly. Think about your stroke every few strokes to ensure you are being effective in the canoe. Imagine it, visualize it, see yourself doing it, and make it happen.

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