C2 - C2M TECHNIQUE

America's Paul Grabow (left) and Jef Huey, Bronze Medalists in individual and team at the 1981 World Championships at Bala, Wales. (Elizabeth Johns Photo)

C2 TECHNIQUE

This chapter is based on the technique of Stephen and Michael Garvis (the "Garvi", as they are called) who won the World Championships in 1981 at Bala, Wales; and to a lesser extent, on the technique of Paul Grabow and Jef Huey, who were C2 Bronze Medalists at Bala, as well as on Elizabeth Hayman and Fritz Haller, 1981 C2M World Champions. The Garvi and Huey-Grabow paddle bow right, Haller-Hayman paddle bow left. The reader should bear in mind however, that all three teams have the following characteristics in common:

* All three have the heaviest person in the stern.

* All three have the person with the longest reach in the stern.

Thus, there is no discussion of other types of teams such as Dieter Welsink and Peter Czupryna of West Germany, 1979 World Champions, who had the person with the longest reach in the bow.

While there is much to learn from studying these teams, the reader should, of course, have an eye for what is appropriate to his C2 team and what is not. In C2, perhaps more than in the other classes, there are individual differences. In the C2, the two partners have to decide how they are going to divide up the workload, leans (both side-to-side and fore-and-aft) and training schedule. Things like the relative reach, strength and size of the two partners may result in different techniques for different teams. You see this particularly in C2M where there is a large strength differential between the man and the woman and as a result, the C2M will do some moves differently from the C2.

Paul Grabow elaborates on how different body types affect technique:

> Perhaps the most important factor determining how Jef and I paddle lies in the diverse body types we have. Jef, being a good half foot taller than I, has a very lanky body type. I, on the other hand, am rather short and stocky. This difference sets us apart and has a large impact on our style. Our seat heights being equal, Jef has a tremendous advantage in leverage over me, even from the stern. Paddling in a straight line in flat water, his stroke "plant" is 2+ feet in front of my body. One would think that, because of this reach, he would be able to impart a larger force over a longer

period of time. Towards the '81 Worlds, this became the case, as we both got stronger.

I find that I have to reach farther and farther forward to counteract the power Jef is able to put in at the beginning of his stroke. This leads me to almost "lunge" forward with my body on most accelerating strokes (such as in sprints). However, there is a fine line, as too much of this causes the boat to bob excessively. It also results in people commenting that my paddle is too long, since my upper hand is far above my head as a result of my leaning forward. This forcing down on the paddle at the catch is also very explosive, as I literally put as much body weight into the plant as possible, so much so, that sometimes (especially at the beginning of sprints) I am actually "jumping" out of my thwart seat!

Another example of how a significant difference in body types can affect technique is found in comparing the closeness of the cockpits in the Garvi's boat and Huey-Grabow's boat. Jef and Paul's cockpits are farther apart than the Garvi's. This is because Jef has such a long reach: If the cockpits were as close as the Garvi's, Jef would be smacking Paul all the time. But one consequence of having the cockpits farther apart is that Jef and Paul can't sneak gates broadside as well as the Garvi.

There was a revolution in the C2 class in 1977 with the widespread introduction by the Americans of the close-cockpit C2. Placing the two partners in the center of the boat required quite a different style of paddling from that used with the "end hole" boats and that style is still under development today. Essentially, it is much easier to spin the close-cockpit boat than the end-holey because the weight is no longer at the ends.

This, coupled with the rules change permitting the ends to be lower than the middle, has made it possible for modern C2s to handle much tighter courses than in the past. In fact, I think it is fair to say that whereas in the past C2 technique was based more on powering straight ahead, today it is based more on spinning. For this reason, C2s are being designed more and more like the Max C1s, and they are beginning to be able to perform the pivots, both stern and bow, like the C1s. My prediction is that we are not yet at the end of this line of development and that as time goes on, C2 technique will become more and more like C1 technique.

For the record, however, here is what the Garvis brothers currently believe are the characteristics of a "C2 course":

* Somewhat wide open -- but not extremely so.

* Some sprints where you have to get the boat moving in 10 strokes or so, probably over a distance of about 50 yards.

* A lot of upstream paddling. Double upstreams are a good example.

* Anything that requires a lot of power, such as paddling upstream back up a drop.

* A course with holes in it. Holes are not likely to affect C2s as much as single boats because of the extra mass.

The Garvi feel that the following characteristics make the best course for them personally:

* Huge water.

* Tight gates. "We're best on moves that require close working together. Wide open courses are bad for us when we're up against light guys."

Perceptions

Perhaps the most important general remark one can make about paddling C2 is that each partner tends to perceive things slightly differently. This can be the root cause of many problems in a C2 team. Paul Grabow discusses this problem:

> More often than not, when C2s argue, one person ends up trying to convince the other that what he/she sees or feels is what's actually happening. In actuality, there are often two realities; one for the bow and one for the stern.
>
> For example, when we first started out we had difficulty making the boat go straight. I kept thinking it was going to my side and Jef kept thinking it was going to his side. We would have arguments over this. Then, one day we realized that because our cockpits were offset, we were not perceiving things exactly the same way, especially when we were looking just in front of us. Finally, by adjusting for the perceptual differences and focusing on a fixed point off in the distance, we eliminated the problem.
>
> Most C2s fail to realize the problem of perceptual differences and instead of accepting it and working on

> understanding it, they end up feuding in a massive battle of egos. Jef and I realized this problem early when paddling wildwater and also from having switched ends of the slalom boat after the '79 Worlds. We suddenly realized exactly why one of us had difficulties in certain situations.
>
> What sets us apart from the Garvi is that we had to struggle with this discovery and deal with it appropriately. The Garvi dealt with it so long ago that they have forgotten it.
>
> When C2s get over the difficulty of who does what, where and why, they can then focus on fine tuning their performance, essentially what Steve and Mike are doing in this chapter by describing these moves. Two boaters, no matter how talented they are individually, MAY never get to this stage simply because they fail to realize these basic perceptual differences.
>
> A C2 goes through many more stages before getting to the point where Steve and Mike are. Remember, these guys are brothers and have paddled together since day 1. They couldn't paddle out of synch if their lives depended on it! Many times in this chapter I see subtle differences in the two narratives; this I believe is because each person has developed a very specific way of cuing in on the particular situation, therefore affecting the way he perceives it. Since these cues are often different, so too will be the "realities."
>
> What I'm trying to say is that there isn't always a "right" way and a "wrong" way when paddling C2, even when speaking of technique. This is why constant, open communication is necessary for a successful boat. An understanding of the partner's difficulties and advantages is a must in order to be able to assimilate these two "realities."

Fritz Haller is in perhaps the best position of anyone to comment on the overall differences between C2 and C2M since he has had a large amount of experience in C2 and was World Champion in C2M in 1981:

> Overall the two boats are very similar. Sometimes, though, there are a few differences. Boo (Elizabeth) and I would look at a course and sometimes decide to do a certain move the "slow-fast way." This includes turning a bit high for reverses and a possible backferry here

and there, both of which can actually make you faster in the long run and can really increase the odds that you will be clean. That is still the name of the game in C2M.

Sternman

Mike Garvis reaches way forward on his forward stroke. He inserts the blade in the water beside Steve's body, about 2-3 inches away from the side of the boat. His paddle shaft is vertical at the catch. He pushes down with the top arm and keeps the lower arm locked straight on the pull-through.

I usually 'pop' it right at the catch -- I hit the catch really hard." Then, he lifts up his on-side shoulder because, "it sets me up well for the J-stroke."

When he does the J, the fingers of his lower hand brush the deck most of the time. The paddle also almost always brushes the deck, too.

Mike does a J-stroke every 3-4 strokes on whitewater. On flatwater, he does a little J on practically every stroke. The chafe marks on his paddle shaft are 3-4 inches up from the throat. He does the J when the lower arm comes back to his hip. "I don't like to let the stroke go further back than my hip because I get out of synch with Steve if I do.

Bowman

Steve Garvis' forward stroke is quite different from Mike's. Steve's paddle shaft is much more horizontal than Mike's (i.e., his top hand is not above his bottom hand). Steve also bends his arms on the pull through, while Mike does not. "I find that if my lower arm is locked, I can't keep the stroke rate up and I think it's necessary to have a high stroke rate to accelerate the boat in certain stop-go situations.

Jef Huey comments on the difference between Steve's stroke and Huey-Grabow's:

> Our stroke is more vertical than Steve's and I'm not sure that Steve's is the best way to do it. We have no problems with high stroke rate using our type of stroke. Our stroke may be shorter but we cut it off at the end, not the beginning. We have different strokes for different situations:
>
> * High stroke rate, short and powerful --for the first

third of a sprint situation.

* Medium stroke rate, hard catch, long and even power -- for paddling up an eddy

* Slow rate, long, even power -- in big erratic water to maintain boat control.

Steering

"You don't want to be spending time correcting for the other person's stroke," Mike points out, "so you have to look at each stroke to see where you can cut out unnecessary corrections."

Mike controls the overall direction of the boat while Steve makes the fine adjustment around the gates. "I try to do all the corrections going forward," Mike adds,

> and just let Steve power the boat forward. It's only when I get really tired (usually on long distance paddles) that I'll yell at Steve to help me out. Usually I can just do everything with J's, sometimes with stern rudders.

Steve adds,

> All my correction strokes, when I make them, are in front of my body. Sometimes I begin a stroke with a little draw and change it into a forward stroke. This pulls the boat to the right, my on-side. Other times, I want to push the boat the other way. Then I do a forward stroke with a bit of sweep angle. A lot of force for this stroke comes from the abdominal muscles and hip flexors, rather than the trapezius, which is what is used on a normal forward stroke. This stroke sets the bow slightly left, relieving Mike from having to do a correction.
>
> In any event, I cut my stroke off just in front of my body.

The Garvi steer the boat a lot through leans. They lean out to the sides for stability probably more than most C2s, so they are used to doing extreme leans in the boat. "This helps with things like sweep strokes," Steve points out. But Mike controls the lean. Steve

does not try to lean for steering purposes; he just tries to be in a neutral position so Mike can achieve the desired lean for the boat pretty much by himself. This is true on most strokes, not just forward strokes.

When he is near gates, Steve feathers his paddle forward, but in the J position, not with a normal feather. Sometimes he has to do a slight sliding pry off the side of the boat in the J position to make a small correction.

Hitting Together

The Garvi make a very interesting point about being together on all their strokes, not just forward ones.

> It's important that the power comes on right together. That is not the same thing as entering the water together. It has to do with how deep the paddle is when it goes through the water. Mike's goes deeper than Steve's. Therefore, Mike has to enter the water a little bit earlier than Steve. But the power goes on right at the same time.

Paul Grabow and Fritz Haller disagree, however, in that they both talk about the need to have the paddles actually move together. Paul Grabow:

> Having a background in wildwater, we always strive for the "pulse" to coincide with the catch and consequently we work on being together in both aspects through the various stroke rates. We also have a higher stroke rate than most other boats, something else we picked up from wildwater paddling. We recognized early on that there appeared to be an advantage in varying our stroke rate depending on the race conditions. This was especially true in tight courses. We found also in sprints that a quick pick-up stroke rate for about 10 strokes would give us a jump on the others. We felt that this tactic of varying the stroke rate depending on the gate sequence served us very well in the '81 Worlds.

Fritz Haller makes these additional comments about stroking together in C2M:

> Stroking together in C2M is crucial. Trying to "take it" in the stern doesn't work. I tried it. Boo uses a smaller paddle so we can stroke easier together. Having our paddles hit together smoothes the boat out and saves energy for both of us.

Fritz Haller and Elizabeth Hayman, World Champions in C2M at Bala, 1981. (Photo Courtesy of CANOE FOCUS.)

Pacing

Where Mike controls the overall direction of the boat and the leans, Steve controls the pace:

> I change the stroke rate depending on Mike's needs. If I sense that he is going to be late because of steering or something, I'll pause a bit before taking the next stroke. For example, if I feel he is doing a big pry, I'll slow down my recovery. It's more important that we are together even if it means pausing.

But there is a corollary to this principle, offered here by Mike:

> Coming out of turns and going into a forward stroke, I don't like to pause before rejoining Steve. If I can get in a little stroke or two before getting back in synch, I'll do it. It helps to keep our momentum up, especially in upstreams. Often, Steve is just hanging on a draw, not paddling forward, so one of us doing a forward stroke is better than none.

Forward Stroke In Flatwater

On flatwater, the Garvi pick the stroke rate way up because they don't have to worry about waves coming up over the bow and slowing them down.

> We can lean the boat to steer easier on flatwater because we don't have to worry about catching an edge. We don't use leans to steer so much on whitewater.

Forward Stroke In Waves

Mike Garvis:

> We paddle on the downstream face of waves even if we have to slow the rate down or skip a stroke to do it. We picked this up from paddling downriver. We think particularly about the placement of the strokes and getting as long a stroke as possible. We also lean way out to the side for balance and to keep the boat steady. The boat doesn't rock from side to side this way. We have a good platform from which to do hard strokes.

Jef Huey:

> We found that in C2 both paddlers rarely get to stroke on the downstream face of the wave at the same time. So we try to stroke so that the boat is accelerating up a wave, not into a trough.

Leans

As Jef Huey puts it, "You have to discuss leans a lot or you're going to fight." This means both fore and aft leans and side to side leans.

> I think this is really important for a team just starting out. We found some general principles in dealing with all leans:
>
> * First you have to decide what you want the boat to do.
>
> * Then you have to decide whose body position is the most important on that move and where he should be. For example, on a bow draw, Paul was better off leaning

back a bit and I had to adjust accordingly.

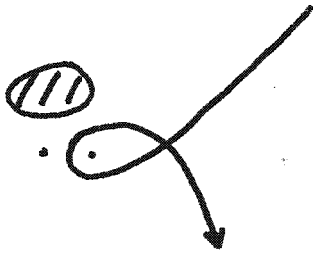
* Finally, you need to decide where the other partner should be to complement the above.

We spent a lot of time discussing these things. The side-to-side leans come first, then the fore-and-aft leans.

In the rest of this chapter, there are many instances where the Garvi speak of Mike having overall control over leans, with Steve "being neutral" or letting Mike "take the lead" with leans. Paul Grabow, however, finds that in his case he does more to share control of the lean:

On bow right turns (in and out of eddies) I have to keep a lot of tension as we lean to the outside of the turn, keeping Jef from "falling off the edge." Control? Am I controlling the lean as I act as a counterweight, or is Jef controlling it as he "takes" as little or as much as he wants? Control is an ambiguous term in this instance as one must act as a counterweight, "giving" only as much weight as the other needs.

UPSTREAM GATES



Ideal Upstream

ON-SIDE: Throughout this book, "on-side" refers to the position of the bowman's paddle. Thus, an on-side upstream gate is one where the bowman's paddle is on the upstream side of the boat on the approach to the gate.

Sternman

To start the boat turning into the gate, Mike Garvis does sweep strokes, similar to what a Cl would do, to propel the boat into the eddy.

> Here it doesn't matter whether Steve and I are in synch. In fact, we often are not because when I am sweeping, Steve is hanging on a draw stroke. The important thing is for me to ram the boat into the eddy. Ideally, we do not undercut the outside pole, but put the bow in between the poles. We don't need to increase the speed of the boat going into the gate, the way a C1 or a K1 might, but we do need to worry more than they do about maintaining our momentum once in the gate. We have to concentrate on getting a good turn and then accelerating the stroke while in the gate -- unlike a C1 which can maintain speed in the gate much better than we can. Ideally, we can get in and out on 2 sweeps, one coming in and one for the exit, with me just twisting around the pole on the way out.

Mike points to an important point about the boat sliding across the eddy on the entry:

> A C2 will slide across the eddy more than a singles boat. It used to be that I had to stop for a moment and do a correction stroke to stop the slide. But now we have

learned to use the slide to our advantage. We slide into a position so my back just misses the outside pole. This is a lot faster. The reason we have to accelerate the stroke rate in the gate is partially because of the slide -- the acceleration prevents me from hitting the outside pole.

Bowman

Steve Garvis has the following cues in negotiating the on-side ideal upstream:

* Is he maintaining the right distance between his body and the inside pole on the approach? If he gets too close to the pole, the turn will be slower because he will have to worry about hitting it.

* Is the bow at water level rather than up in the air? If the bow is at water level, he does not have to consider the outside pole at all - - never looks at it. "Even if something does go wrong at the last minute and we have to sneak the outside pole, having the bow at water level makes this routine."

  If the bow is up in the air, however, Steve has to change his cues and think solely about putting the bow just inside the outside pole.

* Steve aims to enter the gate with the bow pointing towards the shore, like this:

"Then we let the boat slide around. The object is to not stop any more of the sliding across the eddy than is absolutely necessary. We have to combine this slide with forward momentum so that Mike's back just clears the outside pole."

* On the exit, a key trick is to lean upstream a little bit so the water catches the edge of the boat. "This shoots us out of the gate better and into the current."

Steve's strokes are the following:

* He inserts the draw stroke at about a 45 degree angle to the keel line of the boat. "This is more of an angle than in a C1. You need the extra angle because the C2 has more mass and it takes more angle to turn it."

* He leans forward to let the eddy pull the boat up through the gate. "I am not completely extended and not leaning forward excessively, just a general lean. I want the bow to be about 2 inches off the water."

* After the boat turns around in the gate, the paddle ends up close to the side of the boat and Steve just does a forward stroke.

* Throughout the whole turn, the paddle always remains between his eye and the inside pole.

* The entry draw stroke can last for 2 of Mike's sweeps. "If Mike doesn't do a sweep, my draw is almost useless."

* Mike's initial sweep should coincide with Steve's entry draw for maximum effectiveness. The power doesn't come on necessarily when the blades enter the water, but it should come on at the same time.

* On the exit, the key thought is: "How fast can we get out of here?" In most C2s, the bowman takes the boat too high out of the gate. "It's important to get a good sense of where your sternman is and not to go out too high."

* The exit draw is done at about a 50-60 degree angle to the keel line of the boat - - more of an angle than on the entry, because you need a tighter turn on the way out (unless, of course, the nest gate is way across the river). "I hang on the draw until the boat comes around to where I want it, and then let its turning momentum complete the turn while I take forward strokes.

Here are some observations on the on-side upstream from Jef Huey:

On the entry, it is important that Paul (bow) sits up straight after the initial part of the draw. This counters the extreme forward lean I use to get a big sweep. If

we were both leaning forward, the boat would track as well.

On the exit we both lean back as I sweep the stern under the outside pole. Also on the exit, you have to be careful about always going out fast. It depends where the next gate is. Sometimes you go out too fast, then find you've overshot the next gate and have to paddle back towards it. Going out slower, but straighter towards the next gate is often better.

OFF-SIDE

Sternman

This is the exact opposite of the on-side turn; Mike does a draw and Steve provides the power into the gate.

Mike places his draw stroke close to Steve's cross draw. "But probably I am not as far forward as a C1 would be in this position. I'm just trying to help Steve's cross draw."

Mike describes the things he cues on:

> I cue on where we are in the eddy, not on Steve. I don't look at him at all. But the ideal is to have my draw power coincide with his cross draw power. Since we have paddled together so long we can do it this way.

On the exit, Mike does a reverse sweep only if Steve does a cross draw. "This has to be set up before the race. If Steve isn't going to do a cross draw, then it's not worth my doing a reverse sweep."

This combination reverse sweep/cross draw is appropriate only when a tight turn is needed out of the gate. If the next gate is across the river, both Mike and Steve would just paddle forward out of the gate. "The cross draw is much more drastic and you'll lose some forward speed using it."

Bowman

Steve usually does a sweep/forward stroke on the approach to the gate, just before going over on a cross draw. He inserts the blade upstream of the gate, with the blade about a foot from the tip of the bow.

He leans way forward to do this, pushes the lower hand forward, and pulls the top hand down. Consequently, the blade is not deep in the water, yet Steve has a lot of leverage. "Not being deep in the

water has several advantages. First, if there are rocks in the eddy, you're not as likely to be bothered by them. Also, having the blade way up front causes less of a stern pivot action and the boat glides up through the gate better."

Another benefit of having the blade way forward, yet not deep in the water, is that sometimes Steve quickly comes off the cross draw, carries the paddle up over the deck and does a bow sweep on the other side, all in one motion. "The object is to do this stroke before the bow undercuts the outside pole. This stroke tightens your turn (if you need to) while also starting forward momentum up through the gate." Starting with the blade far forward means there is less deck to get over and thus the stroke is quicker.

On the exit, Steve believes that it is best to turn the boat quickly and then propel it forward. "Get the turning done and then paddle forward. Other C2s do continuous correction strokes and take a wider arc, which is slow."

Steve believes that the sternman should do more of a reverse sweep if a tight turn is needed, rather than have the bowman try to do an extra hard cross draw. "We tried having me do extra hard cross draws, but it was too much strain. Whenever I feel a tremendous strain like that, I look for another way."

Paul Grabow disagrees with Steve on this point, however:

> The sternman doesn't have to do a reverse sweep. A stern pry will do it. I think often I was able to get more reach on my cross draw than Steve so I could get a tight turn from this position.

Fritz Haller makes these additional comments about running the ideal upstream in C2M:

> Upstreams are the most demanding move for a C2M. I think upstreams were one of the main reasons we couldn't keep up with the C2s. As Mike Garvis mentions, in an upstream you get a sliding motion towards the outside pole on the entry. Since the sternman will probably out-weigh the bowwoman in C2M considerably, the slide will be even more apparent. Depending on which side we are approaching the gate, I have to do a big pry to stop the slide, or a hard draw.
>
> On the exit, the angle with which you hit the current must be precise, because you may not have the power to pull it out at the last second if you are a little off. Give yourself a safety margin.

ON-SIDE

Sternman

On this type of upstream, there is little or no eddy to help achieve the "sling shot effect" and you have to make the boat come around the turn by yourself. "The primary object," Mike says, "is to stuff as much of the boat as possible into the gate on the entry."

Mike either uses the same strokes as on the ideal upstream or the following:

* A pry in the middle of the boat (midships pry), followed by:
* A couple of sweep strokes.
* When doing the sweeps, he reaches way forward to get his shoulders out of the way so they won't hit the out-side pole on the exit.
* On the exit, he leans upstream just a little to get a stern pivot.

Bowman

Steve has the following thoughts: "You want to turn very high into the gate, get as much of the bow in the gate as possible. Use the momentum of the boat to carry you as high into the gate as possible."

Steve paddles closer to the gate before doing his draw than he would on the ideal upstream. But when he inserts the draw stroke in the water, he feels "it is more important to spin the boat around before you do anything else, even if this means stopping your upstream momentum momentarily. Do the spin before trying to crank away with forward strokes."

On the entry, Steve sits almost upright, with a slight forward

lean to control the height of the bow off the water. He starts his draw upstream of the gate, but it winds up very close to the inside pole.

As the boat comes into the eddy, he leans back a little to keep the bow up and hence spin the boat faster. "But the danger here is letting the stern get too far under the water and thus having the bow way up in the air when you have to undercut the outside pole."

> On the exit my aim is simply to propel the boat forward. If I do this, Mike's back will clear the poles.
>
> On a normal exit, you don't have to stop the sliding of the boat, just time it right so you end up in the right position. But if the next gate is way across the river, you have to stop the sliding. To do this, I do the second half of a bow sweep -- behind my body. We'd pre-plan this before the race.

Steve does a draw for a normal exit, leaning back in flatwater more than whitewater to help get a pivot turn. But he lets Mike lean upstream to catch the edge. "I just sit there and let Mike do all the leans. Sometimes I assist just a little bit, but basically I let him do it all." Mike adds: "I get really mad when he tries to lean -- it upsets our balance."

OFF-SIDE

Sternman

Mike's strokes on flatwater are quite different from those he would use on the ideal eddy. On flatwater, he uses a reverse sweep on the entry, instead of doing a draw up by Steve's cross draw.

> It doesn't have to be much of a reverse sweep, just enough to help Steve. If I start with a reverse sweep, Steve can finish the turn with a cross-draw -- I start the 'whip action' and he finishes it.

For the exit, Mike usually just paddles forward, unless he needs a very tight turn, in which case he uses a reverse sweep.

Bowman

Steve aims to sneak the outside pole on the entry. He does a cross draw, with his blade way far forward, and his arms low. "Having the blade forward helps on the exit because it's easier to transfer to the other side, up over the deck, for a sweep if need be. Also, it's easier to dodge the pole if I'm too close to it."

> If I don't have a sharp eddy line, I can speed up the turn with a sweep stroke rather than hanging on the cross draw so long. I do the sweep stroke before my body ever breaks the gate line. But if there were a sharp eddy line, I wouldn't get off the cross draw until I came up to the gate line. On the exit I do a cross draw or forward stroke, depending on where the next gate is. If the next gate requires a tight turn, I'd do a cross draw. If it is far across the river, forward strokes.

To get a pivot turn on the way out of the eddy, Steve lets Mike control the lean of the boat. "For the most part, I'd stay balanced, neutral. I don't add anything to Mike's effort."

> What Mike does when I do the cross draw is very important. If he doesn't do a backsweep when I do the cross draw, my efforts are made almost worthless. There is a real crispness to our turn if we do the moves together and a whole lot of work if we do it separately.

Jef Huey and Paul Grabow make the following comments on flatwater upstreams:

* The midships pry Mike uses when the bow blade is on the upstream side on the approach has never worked for us. It slows us down.

* We try to arc into and out of the gate, rather than spin in. Arcing is faster for us in most race instances.

* Jef picks up his stroke rate on flatwater exits.

* On the entry with the bow blade on the downstream side on the approach, Jef uses a "circular stroke" consisting of 4 parts:

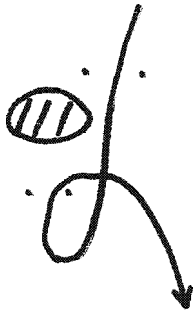
    a. A reverse sweep

    b. A draw slightly in front of his body, converted into

    c. A forward stroke, ending in

    d. A J-stroke

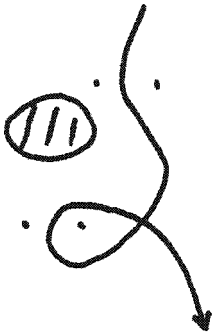
Bad Approach Upstream



ON-SIDE

Sternman

Mike's chief concern is keeping Steve off the poles on the entry. If possible, he does a little jog out to the side and thus obtains a better approach angle:



Mike accomplishes this through a quick pry off the side of the boat by his hip. "We don't get much of a jog, but every little bit helps.'

Mike tries to lean to the outside of the turn a little to catch the edge and get a pivot turn.

> But you have to lean just the right amount. If you don't lean enough, you don't get a pivot. But if you lean too much, two bad things will happen. First, the bow goes way up in the air, thus making a penalty more possible. Second, the stern will suddenly pop out of the pivot and cause the boat to shoot into the bank,

away from the gate. A combination of just the right amount of lean and forward sweep keeps this from happening.

Bowman

What Steve does is similar in principle to what the C1s do, but of course the bow doesn't come up anywhere near as much as the C1s' do. Steve takes the boat past the gate on the entry, then swings around on a pivot turn (Mike controls the lean for the pivot, though). Steve leans way back, but keeps the draw blade very forward (by pulling back with the top hand).

The bow swings around just below the gate and then Steve takes forward strokes to get up through it. He does not plan to sneak the outside pole, "But if for some reason I have to, I lean the edge of the boat nearest the gate down and slice it under the pole."

> When we come into the gate, I'm not looking at the gate, I'm looking at the elevation of the bow -- how high the bow is off the water. Thus, I don't always see the need for the sneak coming up. Mike does, though. So he controls the switching of the lean from leaning to the outside of the turn on the entry (to get the pivot), to leaning towards the inside of the turn for the sneak. Sometimes he does a pry which kills the pivot turn and helps the bow to sneak the gate.

Jef Huey makes an interesting point regarding this sneak:

> The timing of the sneak is the important thing, both when to do it, and doing it together. Paul hesitates just slightly until we get to the ideal point. This lets me know what is coming.

OFF-SIDE

Sternman

Mike often does a reverse sweep on the entry because Steve is so close to the pole that he can't do a cross draw (he does forward sweeps) and the turn is not as tight as desired. "The reverse sweep helps us get a little tighter turn."

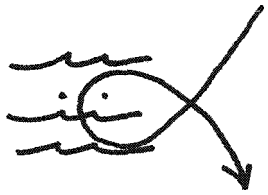
Steveˈs strokes are similar to those he does on the ideal upstream. He does a cross draw but leans back and away from it to get a pivot turn. His top hand is down:

> I have to be careful how much I lean. If I lean harder than Mike expects, itˈll throw us off balance.

He does not undercut the outside pole, but instead paddles straight through the gate.

Jef Huey talks about how he and Paul do the bad approach upstream:

> Depending on the current, we swing around on our approach to the gate so we face upstream as we are near the gate and sneak the bow about 1 foot in front of Paul's cockpit. But we would rarely sneak like this on a bow left upstream (our off-side). In this case, we place more emphasis on getting a good angle for the exit -- the pocket effect.



Upstream in Current

ON-SIDE

Sternman

Mike does a draw stroke to turn the boat upstream so that it can ferry under the inside pole on the entry. Then he picks up the stroke rate to paddle up through the gate.

On the exit:

> Steve has a hard time judging when I'm clear of the pole so we can turn downstream. In practice sessions I yell when I'm clear so he'll get a feel for it, but I don't do that in a race. In a race, by the time I yell, it's too late.

Bowman

Steve makes these comments:

> Since we have no eddy to help turn the boat, I have to leave a little more space. I come into the gate wider with more of a controlled arc, thus minimizing the sliding effect that a tighter turn might have. I want to get the majority of the turn completed before entering the gate.

OFF-SIDE

Sternman

Mike's strokes are similar to those used on a regular eddy turn, except that he aims to turn above the gate and slide in under the poles.

> We try to get the boat around just on Steve's cross draw stroke, without me having to use a reverse sweep.

> The reverse sweep stops what little forward momentum we have in that situation, so it's not a good stroke to do here. Instead of using a reverse sweep, I'm in a draw position, with my blade up by Steve's, ready to convert my draw into a forward sweep to help undercut the bow.

On the exit, Mike often does a reverse sweep, to help him stay off the pole on the way out of the gate.

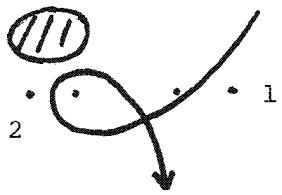
Bowman

Steve's prime concerns are the same as on the on-side, except, of course, he is now doing a cross draw:

> On the exit, I have to get attuned to where Mike is in the gate, and how quickly we can turn out of it. I experiment in practice to learn that,

On upstreams in the current, Jef Huey warns: "Both partners must lean back to get the bow up so it can swing around."

Gate Before Upstream On Same Wire



ON-SIDE

Sternman

After Steve does a draw coming through the downstream gate, Mike does sweeps all the way to the upstream gate.

> If we can get a pivot turn, we'll glide over into the gate. Often, however, we drop low and have to paddle back up. We want to maintain as much speed going across current as possible to avoid this.

Mike goes on to describe how he helps to achieve the pivot turn and subsequent negotiation of the upstream gate:

> The object is to pivot the boat upstream, get a ferry angle and fly over to the upstream gate. To do this pivot, I do a big sweep while Steve keeps the bow up by leaning back while doing a draw. We have to keep the upstream edge up, so Steve has to lean away from his draw a bit.

Bowman

> I start my draw in gate 1 before we even get to the gate. Then, I undercut the pole on gate 1 right across my lap. I have to lean way back to avoid hitting it with my lower hand. This also makes the boat stall a bit, which is good for sending it into a pivot turn. After the backward lean, I reach forward for a forward stroke or combination draw/forward stroke.

Paul Grabow expands on this move:

> Once we've got the boat into a pivot it is really important that I "jump" on the next stroke, really pounce on it. I have to get in as much power as

possible here. Once the boat has spun upstream, I jab in sweep strokes to send the boat over to the upstream gate. This is a situation where I might speed up my stroke rate to get speed up through the upstream.

OFF-SIDE

Sternman

Mike does a reverse sweep as soon as he clears gate 1 with his back. Usually the Garvi sneak gate 1 on the pole nearest the upstream gate so Mike can start his reverse sweep pretty early.

I like to dip the upstream edge slightly into the current because that will throw us over to the upstream gate faster. We may sometimes wind up a little low, but we'll get there faster. This technique works best when the two gates are not on the same wire, though. Shooting across like this gives us that extra momentum we need when going into the upstream gate.

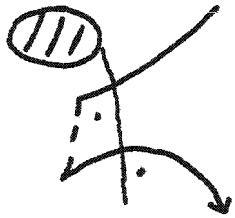
Bowman

Steve:

As soon as I clear the downstream gate, I go onto a cross draw -- not as soon as Mike clears it, but as soon as I clear it. Then, we get a pivot turn, more of one than on the other side. We get the bow up in the air and pointed upstream. I do forward strokes or draw/forward strokes depending on what we need in order to get to the gate. Ideally, I like to undercut the inside pole of the upstream gate with the pole about 3 feet from my body on the way in, so we can be driving up through it rather than wrapping around it.

Paul Grabow adds this thought:

This move depends on the speed of the water. I might just do sweeps to set the pivot instead of a cross-draw. The faster the water, the better the chance of doing sweeps to keep the bow out of the water.



ON-SIDE

Sternman

Mike tries to come as close to the upstream gate with his body as he can on the way in. He does forward sweeps to get the stern under the pole in the eddy while Steve does an upstream draw.

Then Mike does one back stroke as the stern comes around to move the boat backwards a bit to give Steve room to undercut the bow on the way into the gate.

The strength of Mike's backstroke depends on how straight they come into the eddy.

Straight

Angled

The straighter they are, the weaker the backstroke can be, because the boat's momentum will carry it below the gate. The more angled they are, the stronger the backstroke has to be because the boat is likely to eddy out too soon.

> It's also important to maintain momentum on the undercut so you can move up and out of the gate smoothly.

Bowman

Steve does basically forward strokes as he comes down on the eddy. Then, he does a back sweep to help start a pivot turn. But he lets Mike control the lean. As the bow comes around on the pivot, Steve draws the bow into the gate and converts the draw into a forward stroke -- to go up and out of the gate -- a stroke with 2 parts. Steve exits on a draw stroke -- "hardly ever on a reverse sweep."

OFF-SIDE

Sternman

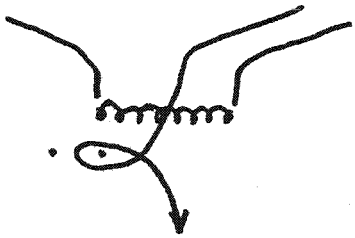
On the entry, Mike does a reverse sweep; then another back stroke to bring Steve into a position to undercut the bow.

> Sometimes there isn't enough room for a C2 to do a Merano where a C1 or K1 could do one. Only if you're sure you have a lot of room is a Merano good for C2s. If you hit your stern on a rock, or something like that, it's slower than a regular upstream turn.

Bowman

To turn the boat around, Steve does a cross draw backstroke -- a "shovel" which pulls the boat backwards into a position to sneak the gate. After finishing the cross draw, Steve quickly comes over the bow and into a forward sweep to undercut the gate. He then paddles up through the gate. The exit is just like that on a normal upstream gate

Upstream After A Drop



The Garvi try to do as much of a regular upstream as possible after a drop except that they go over the drop somewhat sideways so the hole at the bottom of the drop will catch the bow and turn it upstream. "If we come over the drop at a slight angle, it'll either shoot us over into the gate or turn the bow upstream -- either one of which is good."

Backing Down To An Upstream

The Garvi say:

> If it takes a lot of effort to get the boat around, we'll just back down to the upstream gate. Often, however, we'll back out of the reverse gate a couple of strokes -- further than a C1 -- to get the bow out of the reverse gate, then turn around and punch into the eddy.

S-Turn

ON-SIDE

Sternman

Mike describes the leans used for this move:

> If we want to stay super high in the eddy, we lean to the outside of the turn coming into the eddy to catch the edge. In a really good eddy we leave the boat flat or lean slightly to the inside of the turn. But if it is a weak eddy, we lean quite hard to the outside of the turn. The effect of the lean is to keep the boat from falling low in the eddy and away from the gate.

Mike does sweep/forward strokes to enter the eddy. On the exit, Steve has to dive out of the gate and Mike does a reverse/push-away stroke to wrap himself around the pole.

Bowman

Steve adds:

> On the exit if we want to shoot across the river, we lean a little bit upstream. If we want a normal turn right out of the gate, we just lean downstream.

For Steve, the entry to the on-side S-turn is similar to a normal upstream. Then, he does a sweep/forward stroke to stop the swing of the boat in the eddy so Mike doesn't have to do it and get caught with his paddle too close to the gate. For the exit, Steve pulls the boat out of the gate, while Mike does a reverse sweep.

Sternman

Mike has to be more careful on the off-side turn. "I don't have as much power on the exit as I do with the reverse sweep/push away. We have to be slower. I just try to hold my end up in the eddy by using an upstream draw to keep the stern from coming around. Once out of the eddy, I do big forward sweeps.

Bowman

For Steve, the entry is similar to a normal upstream but "I put more emphasis on being close to the inside pole."

Steve enters on a cross-draw, but as soon as his body gets to the gate line, he comes over the deck with his stroke and does a forward stroke to pull the boat into the gate. He does a draw for the exit.

> We can't exit the gate as quickly from this side because Mike's upstream draw and forward sweep to get the boat out of the gate aren't as strong as the reverse sweep he does on the other side. So we have to leave some extra room, compared to what we'd do on the other side.

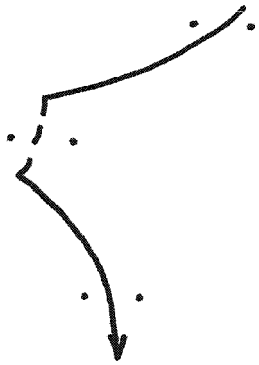
Leaving An Upstream On A Reverse Sweep

This involves only Mike:

> We can't get as much pivot as a C1 can because if we lean upstream to catch the pivot, the edge of the boat will probably come up and hit the gate.
>
> If you happen to have a lot of room here, then you can sometimes do a good pivot. But not usually, because the C2 is so wide and usually the pole is going right over the deck, so that if the deck is leaned up on a pivot turn, you'll take a penalty.

REVERSE GATES

Full Spin Reverse



BOW BLADE ON UPSTREAM SIDE OF BOAT ON APPROACH

Sternman

Mike paddles toward the reverse gate then draws the stern into it. As he does this, he leans back and upstream to catch the upstream edge and achieve a pivot turn.

> Keeping the bow up is a main concern of mine. As the boat comes around on the turn, we fall out of the pivot naturally. That's when I throw in forward/sweep strokes to help undercut the bow pole on the exit. Exactly how much forward stroke and how much sweep stroke depends on where you are in the gate. As we undercut on the way out, if we time it right, the momentum from the pivot turn shoots us through the move with speed.

Bowman

To set up the full spin, Steve does an upstream draw. Then he goes into a wide back sweep to pull the bow around. "I may do 2 backsweeps -- whatever is needed to do the job."

Finally, to sneak the gate on the exit, he transfers from the low brace position he is in from the back sweep, to a draw stroke, and pulls the bow under the pole.

BOW BLADE ON DOWNSTREAM SIDE OF BOAT ON APPROACH

Sternman

Mike does the following:

* Paddles up to the gate.
* At the last moment, he does a reverse sweep to get the stern into the gate.
* A second reverse sweep to keep the boat spinning.
* A third reverse sweep for the exit, but with forward body lean to facilitate a bow sneak. "Both partners have to lean forward together to make this work." But interestingly, Mike doesn't look at Steve to determine when to lean. Both partners cue independently on the angle of the boat in the gate and have learned over the years to make their leans coincide. "But in the beginning when we were learning we did cue off each other."

Bowman

Steve does the following:

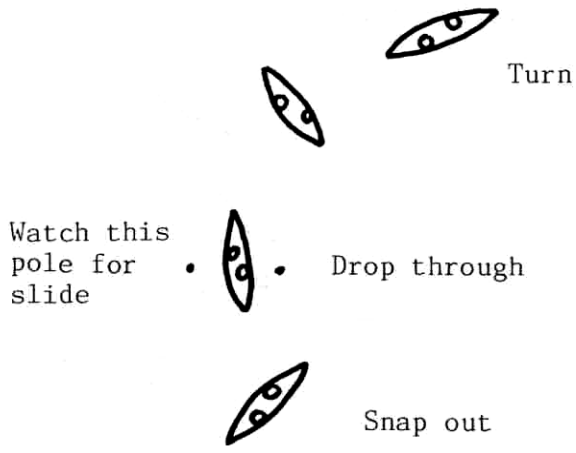
* Uses forward sweeps to start the boat spinning before he goes into a cross draw.
* Uses a cross draw back sweep to pull the bow around. Sometimes a pry followed by a forward stroke is better if the water is slower.
* Just before the boat nears the pole for the exit, he switches back to his on-side and does a sweep to undercut the pole.

Fritz Haller makes the following observations about how full spin reverse gates are different for him and Boo Hayman in C2M (they paddle bow left):

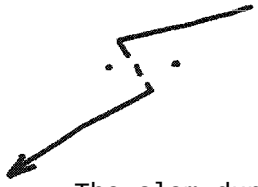
On full spin reverses, the C2M has a tendency to slide:

The boat will slide onto this pole.

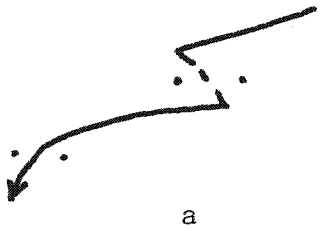
Boo would have to do a hard stroke to prevent this. Depending on which side we approached the gate, this would be a reverse sweep/draw or a pry or cross draw. If she did one of these strokes, it would snap the bow around before the slide got us into trouble. But an even better way of dealing with the problem is to turn a little higher than normal. This gives a safety margin. You DROP THROUGH, and then SNAP OUT:



Slam Dunk Reverse



The slam dunk reverse is complicated because there are somewhat different techniques depending on where the next gate is:



a

b

BOW BLADE ON UPSTREAM SIDE OF BOAT ON APPROACH (a)

Sternman

* Paddle over to the gate from the side.
* Lean back and draw the stern into the gate. By leaning back and pushing the stern down, the boat stalls out right in front of the gate, giving Mike a second to slip his back past the pole. Mike does one or two draws to accomplish this.
* Shifts the body lean from back to forward. As the stern comes up, it generates a little surge, which Mike can accelerate by doing forward strokes, and shoot the boat out of the turn and across the river.
* Mike just does forward strokes, while Steve does sweep/forward strokes which turn the boat. Mike doesn't have to worry about turning the boat, just powering it forward.

Bowman

Steve does a "circle stroke," a stroke with 3 phases:

* A draw/forward stroke combination to start the boat

turning upstream. He finishes the draw/forward stroke way behind his body, while leaning his body backwards. Leaning backwards gets him away from the pole, thus making it easier to get both partners through the gate. Then, he converts the draw/forward stroke into a:

* Back sweep; as he finishes the back sweep, he takes an immediate forward sweep to undercut the gate.

* The pole comes across the deck diagonally, starting at Steve's downstream knee and going across his lap. He exits the gate with the pole near his lower hand.

BOW BLADE ON UPSTREAM SIDE OF BOAT ON APPROACH (b)

Sternman

If the next gate is not laterally so far away from the reverse gate, Mike does not let the C2 get so broadside in the reverse gate. He draws the stern into the gate. Then he starts doing back strokes to pull Steve away from the pole in front of him. It usually takes 1-2 back strokes; one to get Steve away from the pole and a second one to assist Steve with sneaking the bow on the exit.

Bowman

The entry for Steve is the same as for variety (a) above. For the exit, Steve either does forward sweeps or a cross draw.

After Steve does the bow sweep phase of his circle stroke to cut out of the gate he can keep doing forward sweep strokes. But if he wants an especially tight turn, after the bow sweep, he goes onto a cross bow. He may get a bow pivot if he does the cross draw, but this is not the desired result. His aim is normally to keep the bow up. However, once in a while he needs to slow the boat's downstream momentum and this is where the bow pivot is good.

BOW BLADE ON DOWNSTREAM SIDE OF BOAT ON APPROACH (a)

Sternman

This is the classic "slam-dunk." Mike does the following:

* Comes into the gate sideways.

* Does a push away stroke to put the stern into the gate.

* Concentrates on putting his back just inside the pole.

"It's really important that my body be right up against the pole on the entry because this gives Steve more room in the gate, which he needs because the boat is broad-side."

* Mike concentrates on the pole nearest him for the entry, but during the negotiation of the gate shifts his concentration to the pole in front of Steve to undercut it on the exit.

* He undercuts the pole in front of Steve with a forward sweep and a forward body lean. "It doesn't have to be a great deal of forward lean, but it's important that Steve and I lean exactly at the same time."

Bowman

Steve does the following strokes:

* To set up for the turn, Steve approaches the gate with very wide sweep strokes, "as wide as I can get:" He Usually does two such strokes.

* After the second sweep, Steve follows it back way behind his body and converts it into a draw, leaning way back with his body.

* The bow is up because Steve's weight is back. The boat does a stern pivot. Steve's draw pulls the boat down-stream.

* For the exit, Steve quickly feathers his blade forward, doing a bow draw to sneak the pole. The feather starts right nest to Mike and ends up close to the bow of the boat, as the boat turns around.

* Steve's body is still leaning way back and the pole comes around his lap.

BOW BLADE ON DOWNSTREAM SIDE OF BOAT ON APPROACH (b)

Sternman

If the gates are in line as in the diagram below, Mike overshoots the gate on the entry and back paddles cross current through it.

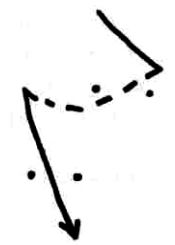
Here it is not so important that Mike's back be up against the pole on the entry.

Bowman

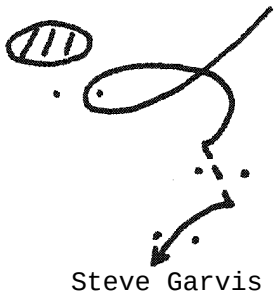
On the exit, Steve still uses a draw, at least initially because it helps put the boat into a stern pivot. "In an extreme case, I'd start out with a back sweep and then convert it into a draw. In a very extreme case I'd just do a back sweep, with a lot of forward body lean at the end to make it strong."

Paul Grabow makes these additional comments about this move:

> Often I want to sneak the gate on the exit with a reverse sweep. I found that this reverse sweep has to be very powerful, really snap it in there. Also, if the next gate is directly downstream, I might even do another strong reverse sweep, not for sneaking, but for setting up for the next gate.



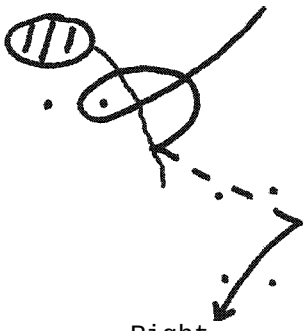
> If the next gate is more cross current, the bowman should come out of the sneak with a very strong forward stroke. The bowman can set the angle and speed coming out of this particular type of reverse.



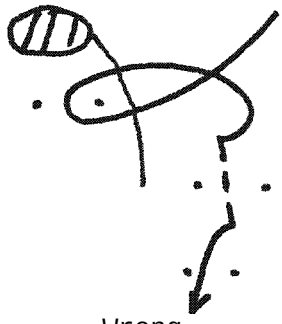
Double Pump

Steve Garvis talks about the basic principle of the double pump.

> We found on the double pump, that it is important to turn on the eddy line -- not out in the current somewhere -- and then shoot back toward the reverse gate, across current:



Right



Wrong

Using the eddy line helps spin the boat better.

BOW BLADE ON DOWNSTREAM SIDE OF BOAT ON APPROACH

Sternman

Mike achieves a pivot turn on the exit from the upstream gate by doing forward sweeps. He has to stop the pivot turn, however, by doing a reverse sweep. Once the boat has caught the eddy line and has started turning, he does a push away stroke, then back strokes to send the boat cross current into the reverse gate.

Bowman

Steve does the following:

* Strong draw out of the upstream gate to turn the boat

downstream and to catch the bow on the eddy line.

* A back sweep to start sending the boat cross current.

* Additional back strokes, controls - - "whatever is necessary to get the boat into the gate!"

BOW BLADE ON UPSTREAM SIDE OF BOAT ON APPROACH

Sternman

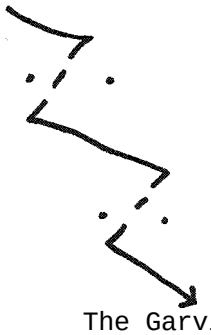
Mike does reverse strokes going out of the eddy and to get the boat to spin around. But then he has to do draws to prevent the boat from spinning too much. "This is harder to do with draws; on the other side I have a stronger reverse sweep to do it." In order for it all to work well, there has to be enough room between the gates. But, of course if there is a great deal of distance, the move effectively becomes a peel out followed by a slam dunk.

Bowman

On the exit from the upstream gate, Steve does a shovel cross draw stroke to turn the boat tightly around the upstream gate. Then he comes back to his on-side and does back sweeps to maintain the proper angle, "until I'm comfortable that reverse strokes are all I need to make the reverse gate."

Paul Grabow adds this thought about double pumps:

> Sometimes you need to slow down the momentum going into the reverse gate in order to get ready for the following gate.

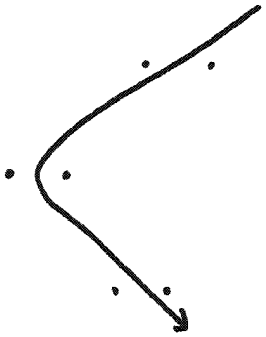


The Garvi tend not to back the boat up as much as in past years. Today they spin more, because of the change in boat design.

> Four strokes, at most, is what we'd do to back up.
> If it was more than that, we'd do two slam-dunk
> reverses with a little ferry between them.

If they do try to shoot the two gates in reverse, Mike does all the steering, with compound reverse strokes. Steve does not control the steering from the bow, as one might think lie would.

Both partners look at the poles on their respective sides.

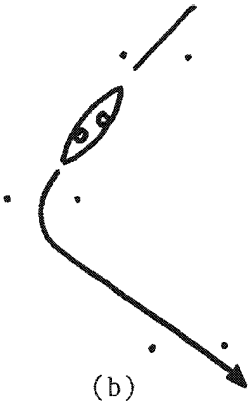


OFFSET GATES

The principles in C2 are similar to Cl, except that since there are 2 men to get through the gates, the C2 cannot cut the turn as close as the C1 can. "We have to go really wide to get the sternman through the gate."

In this discussion, we will look at the following 4 cases, remembering that Mike paddles on the left and Steve on the right:

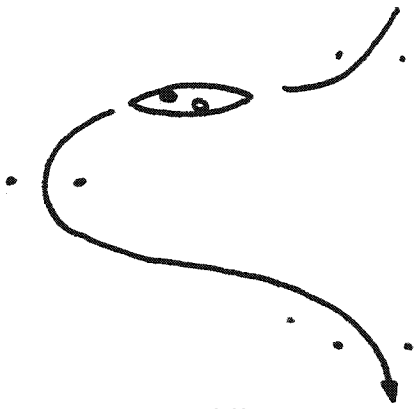
(a)



(b)

Easy Offsets

(c)



(d)

Very Hard Offsets

In case (a) the Garvi try to avoid draw strokes as much as possible on the second gate to keep up forward momentum. Often it is possible for them to turn the boat simply by leaning it on its edge to the outside of the turn. Some draws may be necessary, however, "but they should be minimal."

> But on a practice run, we'd be conservative and do quite long draw strokes. If that went well, on the race runs we'd try to cut out the draws and try to use sweeps and forward strokes instead. If we have to use draws, we try to begin with a little draw, but then convert it into a forward stroke.

In case (b), following the same principle of avoiding draws, Steve would try to avoid using a cross draw in the second gate, to keep up forward momentum. Mike does combination draw/forward strokes, ending in J-strokes or stern rudders.

> If it's not too severe an offset I can do all the correction with J's, but if it's any kind of hard offset, I have to do one huge stern rudder -- get it over with -- then start paddling forward again.

In case (c), a severe offset, Steve does a draw in the second gate but leans back as he leaves the gate to shift his weight back and help achieve a stern pivot. He just paddles forward after that.

Mike does big forward sweeps to help get the pivot. "But I don't lean back because that takes a lot of power out of my sweeps."

The current hitting the bow of the boat tends to prevent the boat from turning too much because of Mike's sweeps. He does not have to correct for this himself. "Sometimes, however, you want the boat to spin quite a lot, so the bow is actually facing upstream a bit after the second gate and you ferry over before turning downstream for the last gate."

In case (d) Mike does the following strokes, designed to put the boat into a bow pivot.

* As Steve approaches the second gate, Mike does a draw. The draw is inserted up by Steve's cross draw.

* Leans forward to get the bow down.

* Mike converts the draw into a forward stroke and ends it with a push away.

* Mike has to change the lean of the boat completely, so that it goes from the bow pivot in the gate, to a stern pivot immediately thereafter to exit the gate. The stern is way up in the air as a result of the bow pivot, and when it comes down again, you want it to slice into the water to get a bit of a stern pivot.

For case (d), Steve does the following:

* In the second gate, he does a cross bow stroke, and depending upon how extreme an offset it is, and therefore how much of a bow pivot he wants, he plunges the bow.

* With his hips, he leans the boat so the downstream edge slices into the water. He leans toward the cross bow stroke. "This is actually a pretty stable situation, because everything is happening in front of you and you are leaning on the paddle. The boat pivots directly under the bowman.

* He leans forward to accentuate the pivot turn.

* As the boat swings around in the gate, Steve goes off the cross bow, back to his on-side. The boat might be in the gate or actually a bit above it. But when the boat comes around, the bow pops up in the air and Steve just paddles forward to the next gate.

The Garvi found that if they simply tried to do a stern pivot in this kind of offset, they couldn't make the third gate, Hence, they developed the bow pivot changing to a stern pivot strategy.

Backferry

The Garvi do not often use the backferry but there are some situations in which they feel it is appropriate:

* When it is impossible to make the offsets direct or even by eddying out after one of the offsets.

* When it sets them up well for the next gate,

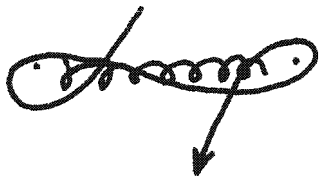
However the Garvi prefer not to do a backferry that requires more than a couple of back strokes. "Our boat doesn't paddle well in reverse; the water comes up over the stern because it is so low. The backferry, therefore, is not a preferred option."

But Fritz Haller says it is different in C2M:

> Getting enough momentum at the precise angle as well as dealing with hard water can be the undoing of a mixed boat. Having a good backferry can change an impossible move into a smooth one and if you are clean so much the better. This is one clear difference between C2M and C2.

HOLES

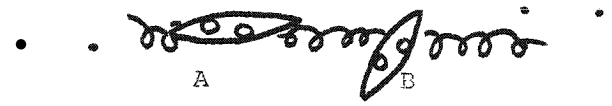
Getting Across River Via A Hole



BOW BLADE ON DOWNSTREAM SIDE OF BOAT

Unlike the Cl, if a C2 has its off-side upstream, there isn't the need to go into the hole to avoid getting swept low. This is because the C2, like the kayak, has a strong stroke on both sides and it can power across on the back wash, without getting swept low. For this reason, it is preferable to avoid the hole when possible.

However, if the Garvi decide to go into the hole with the on-side downstream, Mike Garvis does the following strokes:



* Dive into the hole with speed, so it will send the boat across the hole quickly.

* At point A above, do an upstream stern rudder. The stroke is put in position at A, but Mike really "kicks" it at point "B." If he didn't do this, the boat wouldn't turn upstream for the next gate soon enough.

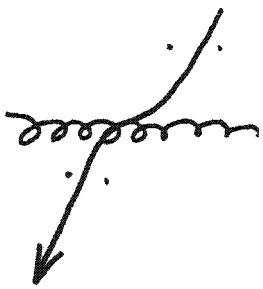
* Then, as C1s do, the Garvi can dive back into the edge of the hole to get an acceleration upstream if they need it for the next gate (the upstream gate after point B above).

BOW BLADE ON UPSTREAM SIDE OF BOAT

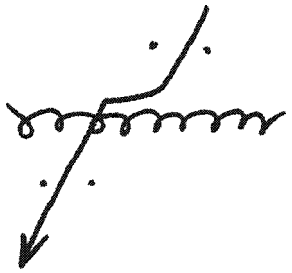
With the bow blade on the upstream side of the boat, this move is much harder. "Coming across from the other side is much easier," Mike says, "because I can control the angle of the bow simply by putting in an upstream pry."

> When coming this way we have to be very careful to control the angle of the boat. If it slips out of control, we cannot correct easily. To turn the boat upstream after coming out of the hole, we work together: It's a combination of Steve doing a draw, and me a sweep. Often, we can't get the boat turned upstream until the bow actually enters the eddy on the other side of the hole, therefore we are often lower in the gate coming this way rather than the other way.

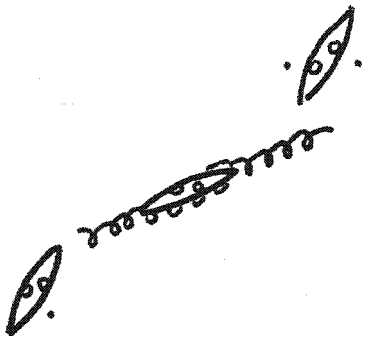
Two Gates Separated By A Hole



The ideal is to get the hole to shoot the boat over to the second gate. The key variable is how far offset the 2 gates are: If they are not offset very much, the boat simply hits the hole at a slight angle and gets deflected into the gate.



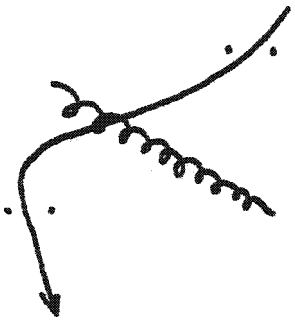
But if the gates are really quite offset, it may be best for the C2 to get completely sideways in the hole and surf over to the second gate:



This works particularly well if the hole is slanted in the direction of the second gate, as depicted above. But even if the hole is not slanted, the C2 can still surf it, as long as it does not have too much downstream (as opposed to cross current) momentum as it hits the hole,

Variant

If you have the following situation you should overshoot the second gate, then come back on it.



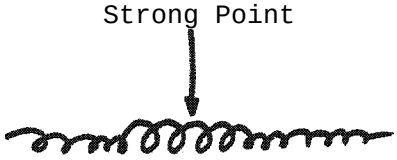
Reverse Gate After A Hole

For the Garvi, the ideal is to punch through the hole straight on and turn the boat at the last second in the slack water behind the hole.

However, should the gate be so close to the hole that a late turn is not feasible, a C2 team should bear the following points in mind:

* Not many holes are big enough to hold a C2 because of its weight and momentum hitting the hole going straight. Furthermore, a C2 can drop into some holes sideways and not be held where a singles boat might be.

* Look for "the strong point" in the hole. That's where the bow should be put because the strong point will hold it as the rest of the boat blasts through the other part of the hole:



* If there is no strong point in the hole, the hole will catch the stern as much as the bow. In this instance you really must use the hole to slow down the boat's downstream momentum and then turn in the slack water.

  "You hit the hole at an angle with the bow first, which spins the boat sideways; bounce through the hole sideways; then crank the stern around to complete the turn."

  A little forward lean is useful to keep the stern from being held under water and the boat doing a bit of a pop up.