Chapter 1

Biography

Everything On The Line

It is nine o'clock on the morning of October 1, 1988. On the Han River Olympic Race Course located outside Seoul, Korea, nine men position themselves at the starting line for the men's kayak 1,000m Olympic final. Facing a headwind, they are hardened veterans of international competition doing their best to remain calm, trying not to think about the years of training and sacrifice now on the line. Among them are Grant Davies of Australia in Lane 1; defending Olympic champion Alan Thompson of New Zealand in Lane 4; East Germany's Andre Wohllebe in Lane 5; Hungary's Ferenc Csipes in Lane 9; and Greg Barton of the United States, the event's reigning world champion, in Lane 8.

Barton is one of the pre-race favorites. A year earlier, in Duisburg, Germany, he won the World Championship by three seconds, enough of a margin to be able to raise his paddle over his head in triumph as he crossed the finish line. This time out, though, it is the Olympic Games; he knows he faces tough competition. Csipes, the old rival who has beaten him in past world championships, worries him. However, Barton believes the lane assignments have worked to an advantage. "At least I've got a good lane," he thought before the race, "I can keep an eye on him." Barton's plan is simply to maintain contact with Csipes and the other leaders, then come on strong at the finish when everyone else usually fades.

The gun explodes and Csipes jumps to the lead. Despite a reasonably good start, Barton finds himself in the middle of the pack. By the 500m mark, though, he has used his steady, rhythmic stroke to move into third place. A quick glance across the lanes shows him another boat abreast of him, but he can't identify who it is —Australia's Davies, who has been a steady performer all season but who was not a favorite for the gold.

With 200m remaining, Csipes fades and Barton, according to his game plan, takes the lead. Wohllebe is second, but Davies begins his final surge, narrowing the gap. The crowd roars.

They hit the finish line in a photo finish. The result is so close that the officials take longer than usual to sort out the first two places. Finally the scoreboard flashes:

Place	Lane	Team	Time
1	1	AUS	3:55.00
2	8	USA	3:55.37
3	5	GDR	3:55.64

Barton appears to have lost in a close finish. Although he entered the race as the reigning world champion, the Olympic gods seem to have denied him. What went wrong? Didn't work hard enough? Wasn't smart enough? Wasn't lucky enough?

Confusion ensues as race officials hurry to review the tapes and double check the finish line judges. Everyone waits anxiously for the decision. The final determination will take ten whole minutes, but it seems an eternity.

Flashback on Barton's Life

Farm Boy

Greg Barton was born December 2, 1959, in Jackson, Michigan. At the time, his family lived in Horton, a small town with a population of about 500. When he was 16, the Bartons moved to Homer, a town of 2,000 located 15 miles from Horton. He remained there until he left for college some years later.

Barton's parents, Mike and Kathy, are commercial hog farmers. They began farming before they had children, beginning with a few hundred pigs on a small piece of inexpensive land. The venture grew until it included, in addition to the family members who still work the farm, a dozen full-time employees overseeing a pig population of between five and ten thousand. Looking back years later, Barton said,

> *I think growing up on a farm helped me. When I was young I always had to get up and do chores. My father made me responsible for what I did. I can't even remember how old I was when I started doing chores on the farm. I was probably five or six. There was a barn I used to clean out. My father would pay me a quarter. This was just on weekends. When I was 13 or 14, I started doing some chores after school as well.*

Growing up in Horton and Homer, Barton didn't have a lot of friends because there simply were not many houses around. In Horton, the next house was about a quarter of a mile down the dirt and gravel road. In Homer, the next house was a similar distance, though this time on a paved road.

"The only kid at all was Mark Rimer, my brother's friend, who was about five years older than me;" recalled Barton. Rimer eventually became a paddling buddy.

Although other children to play with were scarce, there was plenty of water around. The Bartons had to travel only two to six miles to get to a number of lakes and rivers, such as the Kalamazoo and the Saint Joseph.

A Paddling Family

Barton had a brother, Bruce, two and a half years his senior, and a sister, Connie, a year and a half younger. Undoubtedly an important part of his background is the fact that every member of the family paddled, not just recreationally, but actually trained and raced.

Barton's father grew up in Maumee, Ohio, where he played high school football and did some canoeing in an aluminum Grumman canoe. Every year he and one of his high school friends would enter a local canoe race, although they didn't really train for it.

In the summer of 1968, the Hanover-Horton Lions Club staged a canoe race. Mike Barton called an old paddling partner and decided to enter the event. They used an open canoe which Bruce had purchased two years before. Eight-year-old Greg and Bruce, too young to race, were spectators.

> *One guy had a racing canoe. He was about 60, but he ended up winning. My father started talking to him after the race and heard about some other races and said he wanted to check some of them out.*

That summer Barton's father went to watch a few other marathon races in Michigan. He saw that they had a mixed couple's class "and he decided it would be neat for him and my mother to enter the mixed class," Barton said.

The following year, the family acquired a Sawyer fiberglass canoe built to racing specifications. That spring, both parents began race training. They had little knowledge about formal training, but every day after work they spent an hour paddling. They entered their first race that spring... and won.

> *They won this race and then got bit by the bug and started going to more of them. They would race one about every weekend during the summer. We'd travel around Michigan, Ohio, and Indiana.*

The races covered distances from five to 20 miles, but generally lasted between one and two hours. The mixed couple's class averaged about 10 boats per race. The races culminated in the U.S. Canoe Association National Championships, which usually featured a field of about 30 entries.

"They would win a lot of races going into the Nationals," Barton remembered, "but they never won the Nationals." They did, however, place third three years in a row (1969-71) and Kathy Barton won the women's tandem competition in 1970 and '71.

While the parents raced, the Barton children accompanied them, providing moral support from the riverbank. Bruce was the most interested, since he had actually been the first family member to buy a canoe. He and his friend, Rimer, decided to start racing in the junior class. A year or so later, at the age of 10, Greg joined in the fun as well.

Early Sports Involvement

All the Barton children were introduced to canoeing quite young — and all three of them wound up on a U.S. National Team. Bruce competed in the Olympic Games and Connie in the Junior World Championships. Bruce ran cross-country in school, while Connie played girls' basketball and ran the two-mile event in

track. "But canoeing was the main sport," Barton recalled.

Barton participated in a number of sports before focusing on canoeing. He played pickup football and basketball. Like the majority of Midwestern youngsters, his first organized sport was Little League baseball, playing in the nine- and 10-year-old brackets. In high school, he ran cross-country for two years and wrestled at 132 pounds his junior and senior years, earning varsity letters in each sport.

> *As a sophomore at Concord High School, our cross country team won the state championships. I was one of the slower runners and didn't qualify for the varsity team in the state meet. The next year we moved to Homer, where I was one of the best runners on a weak team. In my first year of wrestling, I probably lost more than I won, but in my last year I did much better.*

Foot Problems

Barton was born with club feet. "That's really just a general term people use to describe problems with your feet," he explained. His feet tended to turn inwards and he walked on the outside of them when he was young. When he was only a few months old, doctors put casts on his feet to turn them back out, but the effort was unsuccessful. When he was one year old, the doctors tried surgery on both heel cords to try to lengthen them. It was the beginning of a series of unfortunate mistakes which had the effect of actually worsening the problem.

> *I was not really conscious of having foot problems when I was growing up except that my parents would take me in to see the doctor every year and take me to the store to buy special shoes. One day my father questioned the way they put in the heels. We went to the doctor and reviewed it and found out they put the heels on exactly the wrong way. It had probably been that way for a year or two.*

But Barton does not believe this mistake really mattered very much. He also had to wear "night shoes," which probably counteracted it. These were two old shoes with a bar attached to them which he wore while sleeping and which turned his feet outward. His brother, Bruce, underwent the same treatment. 'Nowadays if you see him in a picture, his feet are always turned out," Barton noted. "He'd probably have been better off if they'd done nothing and just let nature take its course."

In January of 1970, Barton had surgery on his left foot.

> *They'd do an operation and I'd spend about a week in the hospital. I'd get out of the hospital, spend six weeks in a cast with crutches, then an additional six weeks in a walking cast, and then the walking cast would come off, and I'd spend a couple of weeks with just crutches. The next year, the following January, they did the right foot. After that, they noticed that the right foot seemed to turn out reasonably well, but with the left foot I could no longer touch my heel to the ground unless I hyper-extended my knee. There wasn't enough motion in the ankle after the surgery, so my heel would not come down to the ground. It was worse than before.*

Two years later, Barton underwent further surgery to try to correct this

problem. Instead, the condition was aggravated, further limiting his range of motion and stunting the growth of his leg. He began to wear a lift in his left shoe to correct the shortening of the leg.

Nowadays, in our litigious society, such a situation probably would have resulted in a malpractice suit. However, Barton is surprisingly forgiving about it.

"I think people are always looking for excuses when things go wrong," he said. "My definition of an accident is that nobody intended it to happen. No one intended this to happen. The medical procedure was just developing." Looking back on it, with the knowledge he had gained, Barton admitted he never would have permitted doctors to operate on his feet.

> *But when you're ten years old and somebody's told you all your life you're going to need this surgery, you just go along with it. Now I say it was the stupidest thing I ever did because now medical practices are so much better. If I had waited, I would have had basically normal feet, I think. The other problem with having it done at a young age is that when they fused some of the bones, it killed the growth centers, which increased my leg discrepancy as I got older.*

So did Barton become a canoeist because he couldn't excel at other sports involving the use of his legs? It is a tempting speculation, but he denies it, pointing out that he already was concentrating on canoeing at the time he underwent the operations. However, the experience may have had a bearing on his career in another way:

> *I think having the surgery and the problems I'd gone through made me tougher mentally. I realized there were hard times and that you just had to pull through them. When you experience pain after surgery, there is no way to make it go away. You just have to grit your teeth and bear it, no matter how intense. It makes you realize that you can endure much more pain and inconvenience than you thought possible. This perspective gives you the confidence to push on when times are tough.*

Though left with a relatively severe disability, Barton still could run, which always had been a part of his training. He was 13 at the time of the last surgery. He was 14 or 15 before he started running again.

"I'd already been involved in canoeing for four or five years and I could see that other people were doing some running for cross-training," he said. He had a two-mile course that he worked on, running out a mile and coming back. He would run until the pain in his legs forced him to stop. After massaging his feet and walking to work through the pain, he began again. Finally, he got to the point where he could complete the two-mile circuit.

"I started running more and it seemed that my feet sort of adapted to it," he recalled.

Early Canoeing

Barton started canoeing during family summer vacations when he was 9 or 10.

"We'd go on a week-long canoe trip up in the Boundary Waters of Canada, or upper Michigan, or some place up north," he said. They would pack sleeping

bags, tents, and food in the aluminum and the racing canoes. Barton usually would paddle with his father and Bruce paired off with his mother while his sister would ride in the middle. There would be portages between lakes and around rapids.

> *I remember one time we went to the Boundary Waters for about a week. We paddled for about two or three days to get to this lake where we heard the fishing was good. We were relatively fast paddlers so we could go quite a distance on only a one week trip. The fishing was fantastic, so we just stayed a couple of days and fished and paddled around a little on the lake.*

Vacations were not the only time he paddled. When his parents first started training, occasionally they would paddle with Barton sitting in the middle between his mother in the bow and his father in the stern.

"Sometimes my mother would sit in the middle, and I would get up front and paddle with my father," he said. These sessions started in the spring and went through the summer and fall. This was not actual training, of course, because it was spontaneous. If his parents were going out to train, sometimes he would go with them and paddle, too. This went on for about a year.

When he was 10, he participated in his first canoe race, about an hour and 20 minutes long:

> *We were at this race and my brother was racing in the junior class with his friend. There were trophies for three places and they said,' there are only two or three boats entered. You should get in it because you can win a trophy.' So Phillip Kruger, who was 15 at the time, and I did it. There turned out to be four boats in the race, but one of them was an aluminum canoe and we beat it. The other two racing boats beat us. But I came home with a tiny little trophy and I was happy about that.*

This was the U.S. Canoe Association marathon-type of paddling, in which the paddlers switched sides every six to ten strokes on the command "hut!" Barton competed in a few other similar races that summer, following the same formula of meeting someone at the site, teaming up spontaneously and racing. In the first couple of races he was in, Barton and his partners usually would finish last among the racing canoes but ahead of the aluminum canoes. He already was demonstrating his talent as a successful ten-year-old in a classification for 15-year-olds.

Influence of Marathon Racing

In the beginning, Barton's marathon "training" was random. His parents figured out a yearly plan, and Barton simply followed that.

"They knew the first race was in May, so they knew that in mid-March they needed to get on the water and start paddling," he said. They would go out almost every evening after work and paddle for an hour or two and he occasionally would accompany them. "A lot of times I would get to go along and sit in the middle of the boat and trade off."

During this time, he learned general paddling aspects, putting the blade in the water and "knowing what it feels like to pull on a paddle." However, he also was laying the foundation of his endurance base, which grew to tremendous proportions as the years went by:

When we went on canoe trips we'd paddle for six hours during the day. We'd paddle for an hour and a half, and then we'd stop and have a snack. Then we'd paddle for an hour and a half and stop and eat lunch. After that, we'd get back in and paddle for another couple of hours that afternoon. You had to be able to withstand the entire day, so you didn't go out and kill yourself in the first 500 meters.

Sometimes, though, they would pick up the pace:

My father and I would be together and Bruce and my mother would be together and we'd kind of race each other to the end of the lake or something. Looking back, I see that it was endurance based, because everything I did was longer in duration. And the first races I did were marathon races —an hour or longer.

There were several people who had an early influence on Barton's canoeing. Initially, of course, it was his parents. There were some "big names" for him to watch, too: Andy Toro, an immigrant from Hungary who had won an Olympic bronze medal in double canoe; Marcia Smoke, the bronze medalist in women's single kayak at the 1964 Olympics; and Roland Muhlen, who was later fifth in the World Championships in double canoe. Additionally, there were paddlers on the "professional" marathon canoeing circuit. At some of the races the Bartons attended, there was an amateur marathon race, an amateur mixed doubles race, and a professional marathon race. The Bartons would enter the amateur races and watch the pros.

Barton tells an interesting story about one of them: John Baker— or was it John Glare?

There was this big guy, John Baker, who was doing well in the pro races. 'Big John' they called him because he was 6'6 ", probably 200 pounds, and real muscular. He competed in the 1968 Olympics as John Glare. In professional racing, he was John Baker because supposedly he had raced a few of these Michigan pro canoe races before going to the '68 Olympics. Back at that time there were very strict amateur rules. I can remember they used to have the 'contamination rule'. I remember one day I was at an amateur race where someone who had raced in a pro race wanted to enter. Marcia Smoke was saying, 'Don't race against him! He raced in a pro race and anybody who races against him here is professional and won't be able to go the Olympics!' It was absurd, when you think about it now, but it was a big concern then. Maybe these people would win $100 and split it with a partner— it wasn't like they were earning a living by any means. But that's the way it was perceived at the time.

Barton didn't learn any particular techniques from these people — "it was more just endurance canoeing and sort of learning how to paddle." He went through the usual process of learning and then having to relearn. For example, he remembers that his father thought it was important to bend way over to paddle so he could use his back more. Later, when he and his parents went to a sprint racing training camp in Florida, they were told to sit more erect and use more body rotation. "It was later, when I got more involved, that I started hearing more about the technique points."

School

Barton did extremely well in school, thus attesting to the fact that he brought great intelligence to bear on the problems of sprint racing and how to train for it. At first, he did well in all subjects, but when he got to high school, he concentrated more on science and mathematics. He claims that he was not a "bookworm," however.

> *I'd do the work at school and occasionally I'd bring a book home. The schools I went to were small, and 1 didn't have to do much to keep up with what was going on. It was a big shock to me when 1 went off to the University of Michigan, because all of a sudden I had to start studying and putting in a lot of time outside the classroom.*

With this meager background, however, Barton scored a perfect 800 in mathematics on the Scholastic Aptitude Test (SAT).

> *The math on the SAT is not that hard. There isn't any calculus. A lot of it seemed to meal most easy. When 1 took the SAT, I thought it was something I had done in the sixth grade. In the English section, I ended up guessing at many of the answers I didn't know. I thought their system was way off, and that they had made the English portion much more difficult than the math portion.*

How does he account for his doing so well, the top percentile in the entire country? He says that he had a few good math teachers. He also says his mother discovered him one time when he was young, sitting in a big cardboard box "spouting off the multiplication tables that I had figured out." In other words, he was just plain smart.

First Kayaking

Up to this point, all of Barton's paddling had been in two-man open canoes. But in 1970, the family bought a sprint kayak. In the winter of 1969-70, the Barton parents heard about a training camp in Florida for flatwater kayak racing, run by Bill and Marcia Smoke and Marcia's sister, Sperry Rademacher, from Florida, and they went to it. Smoke was an Olympic bronze medalist in K-1W and still was training seriously for international competition. Her husband also was a U.S. Olympian. Besides sprint racing, Marcia also competed in a few marathon races, which is how the Bartons met her.

Barton's parents and his brother Bruce attended the camp, while he and his sister stayed at his grandparents' home in Florida. The parents and Bruce saw people in flatwater sprint boats and decided to order a less tippy one, called the "Slender."

> *We had a couple of racing canoes and the Slender. Sometimes I would paddle it. In the spring of 1970, Mark Rimer, my brothers racing partner, who was 15 and therefore bigger and stronger, went with us to one of these races organized by Marcia Smoke which had sprint and marathon classes. My parents raced the marathon class and Mark Rimer raced our Slender. He did pretty well. That summer, Marcia, who was coaching a lot of juniors for the Niles Kayak Club, asked my father whether Mark would like to come down*

and train for the Nationals. He did. Later on that fall, we were at another race and Mark was racing. By that time, Bruce was racing a kayak there, too. Bill Smoke had an extra Slender that I could use. We had only two kayak paddles, though, and Bruce and Mark used them. I had to borrow a left control paddle! That was my first kayak race.

In the winter of 1970-71, the Barton family again went to the Smokes' training camp in Florida. This time Greg attended, too. There was a distance event at the start of the camp, and he borrowed a Slender and raced it. That was his second kayak race. Following that, there was a week-long camp.

"I don't remember getting much personalized instruction," Barton said. "I'd go out and dip around while other people were training." At the end of the camp, there were some sprint races, Barton's first: "I think they had a 500 or a 1,000 that required you to go out, turn around a buoy and come back."

In June of 1971, Barton bought a racing kayak, a Hunter. From that point on, he started training more in the kayak than in the marathon boats "just because it was more convenient." He did not have a regular marathon partner, so he paddled the kayak more in practice. But he still did a lot of marathon "simply because there were more marathon races available." His parents would go to a marathon race practically every weekend, and there would be a junior class or other age group classification that he could enter. He would meet other people his age and recruit them for partners. There were not many sprint races, however.

"Marcia Smoke would organize one or two a year," he said. "Then there used to be divisional championships that you had to go to in order to qualify for the Nationals. And then there was the Nationals."

Influence of the Smokes

Although Barton's brother also was paddling a kayak, he was so much better than Greg that they seldom paddled side by side in workouts. "We'd train at the same time, but not with each other."

In 1971, Marcia Smoke invited the Barton brothers and Rimer to her house in Buchanan, Michigan, about 100 miles from Homer. They stayed for two weeks and trained with Marcia and Bill Smoke and other children. "That's where I started to learn a lot more about training and techniques. They were talking about rotating the torso, reaching out with your arms, and having straight arms at the catch."

Torso twist, the ability to twist from low down in the back which would become a hallmark of Barton's technique, first started here:

Initially, I remember hearing all the comments about needing to rotate as much as you can, so I was thinking about rotating out. Later on, I think I started to really exaggerate it, using low body rotation, like twisting from the hips and lower back instead of just the shoulders. I really concentrated on that. But initially, it was just realizing that you needed to rotate when you paddled.

Barton also learned about interval training from the Smokes. Before he attended the 1971 training camp in Buchanan, his workouts consisted of simply paddling for an hour or two at a constant speed. On occasion, two boats would be

going side by side "kind of racing each other." But in Buchanan, he saw his first interval workouts. One of the Smokes would go out in a motor boat with a stopwatch and call out various times and intervals.

"I remember posted down in our basement was a list of Marcia's workouts," Barton recalled. "I think there were 10 or 12 of them she had gotten from Sweden." Smoke had gone to Sweden one summer and compiled a list that she called "Swedish workouts." Some examples: 20 x 70 seconds on, 20 off; and 6 x 6 minutes.

And then there was "X times one":

> *That meant you'd go for one minute as hard as you could — basically like doing a 250-meter piece all-out — and then you'd rest five minutes. Then, you'd do another one. And you'd do that until you started dropping off, which usually meant you'd do about five of them. Usually, after you dropped off on one, you could tell you were slowing down or really tiring, and you'd do one more. Then, you'd stop.*

Barton also learned one technical point. When he was in Florida for the first training camp, Lee Abbott commented that he wasn't dipping his paddle all the way into the water. "After that, I felt I really needed to work on that" In the late 1970s, though, he realized he had overcompensated: "I realized that I was always dipping my paddle in too deep, and that I had overcorrected at that young age. It was a problem, and I needed to think about not going too deep."

The other thing Barton remembers from being with the Smokes in Buchanan during that period was being exposed to all the different types of boats:

> *Marcia still had some of these older boats in her basement and we ended up paddling them all. It was a mini boathouse. She lived right on the St. Joe River. I think she had a K-4, two K-2 Gliders, and the model before that, called the Ribelle. She had her wood Hunter. She may have had one or two other wood K-1s. And then, she had some fiberglass K-1s, like a couple of glass Hunters, a couple of Tracers, a couple of Slenders, and a couple of other boats. So I got to see the evolution of the boats.*

Barton continued to work with the Smokes, particularly Marcia, regularly through 1974. They were his first real coaches. He would see them at least one week every winter during the Florida training camp, then at the races that Marcia attended, and finally, several times in Buchanan during the summer. In 1974, Marcia stopped taking on new pupils, and shortly thereafter, the ones she did have started to drift off to college, and the group dwindled in size. Barton was the youngest one in the group, "probably by three or four years at first. I was one of the slowest ones, too, because I was 80 pounds, 4'10", and a lot of the others were 150 pounds."

At this point one would do well to stop and consider something: the United States at this time—the early 1970s—was not very good at flatwater sprint racing. It was difficult to obtain information about the sport and Americans, with one or two exceptions, had not been very competitive internationally. But at a very young age, Barton was exposed to the best the country had on a recurring basis. As he put it, "At that point Marcia Smoke WAS American canoe and kayak, as far as flatwater went. She had won a medal in the 1964 Olympics, made the finals in two events in 1968, and was consistently making the finals in international

competition."

Another point worth making is that Barton had an excellent training environment starting at a very early age. Thus, in a way, he was able to overcome the handicaps that tended to plague Americans at that time: lack of information, lack of coaching, and lack of training partners.

> *I think I had a handicap compared to other countries, like East Germany or Hungary, where they had a lot of year-round coaching and professional coaches. But compared to the rest of the U.S., I was much better off. Also, there were some other people in the Michigan, Ohio, and Indiana area. There was Andy Toro in Ann Arbor. Roland Muhlen was down in Ohio.*

"Learning the dedication" was a big part of what Barton learned from the Smokes. They would do two-a-day workouts when he was with them. 'We'd get up in the morning and I remember we'd always go for a mile and a half run or something, come back and stretch, and then go out and do a practice in the morning, and then another one in the afternoon."

Initially, Barton's motivation for doing all this was the fun of it and "thinking about going to the National Championships and getting to race these different events and team boats, and that sort of thing." But fairly early, he could see that the Olympics was a possibility for him, "because Marcia was going to the Olympics."

Barton's first U.S. Nationals was in 1971, where he raced K-2 Juvenile 500m, K-4 Juvenile 5,000m, and C-8 Junior 500m. In 1972, he tried to qualify for the K-1 Juvenile event at the Nationals, but came in fourth in the regional qualifying event and didn't make it. He did, however, race Nationals in K-2 and K4.

Bruce's Influence

Throughout his early career, Barton's brother Bruce was going through more or less the same experiences he was. It was natural that the two of them would compare notes. Initially, Barton did not learn much directly from Bruce, but by 1973, when Bruce qualified for the European Junior Championships and started going to Europe each year, he learned a lot more. One of the things that made an impression was the fact that at age 17, Bruce and some other paddlers paid their own way to Europe just to train.

> *I learned a lot from those experiences. In the United States I think we were exposed to many of the same things. But going over to Europe, I think he saw how the Europeans were training and what they were doing. He also made me realize that the Europeans were a lot better than we were, which I knew already. But I learned more about why they were better and that we had to improve. In this country people think as soon as they qualify for the Worlds or the Olympic team, they're hot stuff. They go over to Europe and think they're going to be right in there, fighting for the medals. They don't realize that it's a whole other world out there, and they get blown off in the repechages (last chance heat for advancing to the semi finals), and they wonder what happened. Whereas, I knew when I was 13 or 14 how fast these guys were over in Europe, and that when you get to the top in the US, it's just one small step to becoming competitive internationally.*

Bruce brought a mixture of practical information and stories: "I remember hearing all these names, you know, Sledjewski, Lars Anderson, and Csapo." For example, he learned that during most of their workouts, the Swedes would do long intervals at less than maximum pace. 'Bruce said they weren't really that quick, that he could hang with them on the first few pieces or the first part of a piece, but they would maintain a steady pace throughout the workout." But the favorite Swedish workout, Barton learned, was "X times one," where they would do pieces at maximum intensity with long rest.

> *A lot of it was just the concept that there are different types of interval training. You've got long pieces. You've got intermediate pieces. Then, there's speed, practicing starts, and that sort of thing.*

Any technique tips? "Nothing really sticks out in my mind other than just the basics: using your rotation, straight arms and wrist, and so on." But he does remember one time when Bruce was paddling in front of him demonstrating how different racers paddled. "Sledjewski paddles like this, he'd just sit up really straight" or "Csapo from Hungary paddles like that."

Quantity of Training, 1971-73

During this period —remember, he was only about 12 years old at the time — Barton was training every day in the spring and fall, and often twice a day during the summer. He'd start paddling a little in March, and by April was up to a daily routine. As soon as school was out for the year, he would do occasional two-a-days. By the middle or end of October, he'd be back down to one workout a day. Thereafter, he would paddle occasionally, until the river froze in December. Sometimes, he would paddle in the winter, too.

> *There was the Kalamazoo River close to where we lived and it would stay open. Parts of it would freeze, but other parts would stay open year round, so we'd go out and paddle marathon canoes. That may be where I learned a little bit of marathon canoe racing strategy. As soon as you got to the river, there was a race right away: whoever could hop out of the car, untie their boat, and throw it in the water the fastest would have a head start on the next crew. It would be kind of a race going upstream. We were always going in and out of the current. Somebody would get ahead. It was a real twisty river with a lot of current — that's why it would stay open. It was always hard to pass somebody who got ahead of you. You'd have to sneak by him, and you'd end up crashing and banging boats and swearing at each other. Then there was this pipe that went across the river. Depending on the water level, you had to go in different places to get around it. There would be a great mess racing around that thing.*

Barton's partners in these sessions were other family members or friends who stopped by the house. During the winters, because of the cold, he did steady distance paddling. When it was wane enough to do interval training, he would start with long intervals. As the date of the Nationals drew near, he would do more start practice and more speed work.

Istvan Granek's Book "Paddling Canoes and Kayaks"

The earliest literature on sprint racing that the Barton family had access to was a book by a Hungarian coach, Istvan Granek, called *Paddling Canoes and Kayaks*. It was a 288-page double-spaced, typed English translation made available by the U.S. Olympic Committee in 1969, which covered almost all aspects of canoeing and kayaking in considerable detail. The book had an indirect influence on Barton because his father bought a copy at a training camp and referred to it frequently. It contained a lot of the same things he was learning from Marcia Smoke: "My father was always talking about 'you've got to reach out, and get a good rotation, and don't bob the boat.' "

> *I remember after my father read the book he built this paddling weight machine. It was two pulleys on the wall. He had one about waist level when he was sitting on the floor. And then there were a couple of them on the ceiling, and a string hanging down. He'd stack a bunch of barbell weights on the rope, and sit there with one hand and grab the handle on this thing. There were a number of exercises he got from the book. You'd get pulling and the weights would start swinging around. You didn't want to have any nice lamps too close to it!*

This machine was used for winter training. Since his father never did any barbell lifting but focused his weight training solely on his homemade machine, Barton did only the machine, also. "There was a belief that you shouldn't start weight lifting too young because it might harm your growth and that sort of thing," he recalled. He did some push-ups and pull-ups, but it wasn't until age 16 that he began real weight training.

Although the Granek book had an influence on Barton through his father, he didn't get around to actually reading it himself until 1980.

Evolution of Technique

We have seen how Barton spent a great deal of time in his earliest years in marathon canoes. The question naturally arises, what effect did that have on forming his kayak technique? He believes the techniques in both were probably more similar back in the 1970s than they are now: "I think a lot of the marathon techniques were quite similar to flatwater kayak techniques, as far as trying to use your rotation, reaching out, getting a full extension, and not pulling back too far behind you."

Probably a lot of the similarity had to do with the fact that many of the best marathoners were sprint racers who were just "much better athletes and in much better condition." But now, Barton believes marathoners have specialized and their techniques have changed considerably. Contributing to the difference is the evolution of the bent shaft paddle.

> *Back when I started, you had the straight paddles in marathon, which meant it was really important to reach out in front of you. Now that the paddle is bent, you can paddle more behind you, and you don't need to rotate out as far forward. As a result nowadays, my marathon stroke is much different than anyone else's because the two techniques have sort of diverged. Today, marathon has emphasized pushing DOWN with the top arm and pulling*

back farther, and not so much rotating out in front of you, which I found allowed me to develop more power in the middle distance kayak races. In some of the eight-hour races, just the act of moving your body that much can fatigue you, and it's actually putting more power on the stroke than the body can handle for eight hours, so what I always thought was the most efficient for any type of paddling may not be the most efficient for an eight-hour race. The marathon stroke has changed. Also, nowadays, the flatwater stroke has gotten even more involved with rotating with the wing paddle and everything. You've been able to really involve your back and shoulder rotation, and I've really concentrated on that in the last several years, put a major effort into thinking about using this body rotation. Now when I get into a marathon boat, the guys say I'm using half a kayak stroke. Sometimes it's hard to match up with partners. But I still think mine is an effective stroke, especially in the shorter races.

Barton has gone through several different phases in his kayak stroke. In the early 1970s, he was using techniques Marcia Smoke taught him, which emphasized the top arm pushing out at eye level, "or even a little higher than that."

Then, when I went over to Europe for the '75 and '77 Junior World Championships and the '79 Senior Worlds, I saw a lot of the Soviets and East Germans paddling with much lower top arms, more shoulder level, and it seemed more powerful. In 1980 I tried to use a little more of that, pushing out a little lower and trying to use a little more body. Then, for a couple of years, my technique was kind of strange. I went through this phase where I was trying to use everything. I would rotate out and I'd have my top arm bent a lot with the fist close to my cheek, then I would rotate and pull with my arm at the same time and really try to combine the rotating, pushing, and pulling. It really didn't work that well, especially in the shorter events. I was almost slapping the water at the catch because the paddle angle was too low. My top arm was bent greater than 90 degrees, and the fist was close to my head. I wasn't getting a clean, powerful catch. Later on, I realized it was better to just stick with the rotation and use the arms as little as possible, so in 1983 I started changing some more.

1975 Junior Worlds

In 1975, Barton was 15 years old and weighed about 110 pounds. In order to make his first U.S. Team, he had to get past the U.S. Junior Trials on the St. Joseph River in Buchanan, Michigan. He made it by the narrowest of margins:

In those early Junior Worlds, they had only 500 meter events. It had been decided beforehand that we were going to take four or five men kayakers to the Junior Worlds. I raced K-1 500 and finished sixth and my brother, Bruce, won. Another guy from Michigan, Dan Hintz, beat me out by just a couple of feet in fifth. But Bruce and I won the K-2 event, so they were trying to decide whether to take me, who was sixth, or this other guy, who was fifth. They decided to have another K-1 race. This time, we finished in the same positions, only it was even closer, about one foot. I was ahead of him all the way, then he passed me at the very end. So they said, okay, we'll have

another K-2 race. We switched partners around. Again, I won the K-2, with another partner, so they finally decided to take me on the team. I made it by the skin of my teeth.

He went to Castel Gandolfo, Italy, for the Junior World Championships, where he raced only the K-4 500. His team was eliminated in the repechages. Bruce had better luck, though, taking sixth in the K-1 and K-2.

"I was impressed," he recalled, "and got the idea that it was possible for an American to make the finals and do well." The other impression he had was that the athletes from the other countries were a lot bigger than he was. "I could also **see** they had much better developed programs in Europe than we did in the U.S."

Toro Becomes His Coach

Barton first met Andy Toro when he started paddling at about nine or 10 years old. Toro had been a bronze medalist in C-2 at the 1960 Olympics, racing for Hungary. He first met Toro after he had immigrated to the United States from Hungary and was studying naval architecture at the University of Michigan. Toro and Barton would see each other at races. "But he never coached me until 1975, when he was the coach for the first Junior Worlds Team I was on," Barton recalled. With Marcia Smoke phasing out of coaching — she was now a mother and had other responsibilities — Toro became Barton's coach, a relationship which would last through the early 1980s.

In 1975 he'd tell me to reach more, twist more, don't pull back before you bury the blade. He had us do basic interval workouts. He felt I needed more size and strength.

To achieve that, Barton started barbell weight training in 1976.

I used pretty much the standard upper body lifts. At first, I remember, the bench press was a big one. I guess that's one everybody does. I still did pull-ups and maybe some overhead presses, and some curls — just a few exercises at first. I did some bent-over rowing as well. That's not always the best thing for your back. At that time, we didn't realize there was such a thing as bench rowing.

1977 Junior Worlds

In 1977, Barton went to the Junior Worlds in Vichy, France. By then he was up to 135-140 pounds and was the fastest Junior in the U.S.

I went over to race K-1 and K-2 500 meters. I thought I had a good shot at making the finals in the K-1, at least. I ended up fourth in the semifinals. It was a photo finish, less than a tenth of a second, between Grayson Bourne of Great Britain and me. But that was just an honest reflection of how good I was at the time. I would get behind at the start and middle of the race and then come on at the end, but I could tell I had made a lot of improvement in the past two years. I went from being one little guy in a K-4 that was being eliminated in the reps, up to being in contention with the big guys. At least I wasn't totally out-classed the way it had been in the past.

1978 Season

Due to the weight lifting and a growth spurt, by 1978 Barton was now up to 5'10" and about 150 pounds. He had a "decent year" in 1978 when he made the U.S. Senior Team, and by the end of the summer was the second fastest K-1 on the team, behind two-time Olympian Steve Kelly. He and Bruce raced K-2 1,000 in the 1978 Senior World Championships in Belgrade, Yugoslavia, but were eliminated in the repechages. He also raced K-4 500 — "It was a joke, we trained it only once before the race and got totally blown off in the reps."

But his first senior worlds made some impressions on him:

> *I remember seeing a lot of techniques there and thinking that as long as you did a few things properly, like getting good rotation, and having good steady strokes, perhaps some of the minor details weren't so important, like having full extension, or worrying about the height of your hand on the push-through.*

He also remembers seeing East Germany's Rudiger Helm for the first time:

> *Before the races, at the start, it seemed like you could just see the confidence in the way he looked warming up, stretching out, and kind of shaking his arms around. It looked like he really had it under control and knew what he was doing. I picked him to win the K-1 1,000 and sure enough, he did. He won three golds that year.*

Beating Bruce

That year also was marked the first time Barton was able to beat his brother in a race. At the Memorial Day Regatta in Lake Sebago, New York, he won the K-1 1,000, "pretty much surprising everybody, including myself." At the end of the season, he also beat Bruce at the Nationals. "I was excited because I knew I had just made a big jump."

Disappointment in 1979

In 1979, Barton's improvement came to a halt because he hurt his back — an upper middle back muscle tear — in the Lake Sebago race in May. He stopped paddling completely for two weeks, and then took almost two months "babying it along, where I never had a hard workout." So he views the 1979 season "as almost a waste." He competed in the World Championships in the K-1 1,000m, "and I felt I was continuing to learn just by seeing the top people. But physically, I didn't use what I learned, because I wasn't strong enough. By the end of the season though, my back was fine."

Counter-Rotate

There was one important technique element that Barton picked up in these two seasons, the idea of "counter-rotating," a term which came from Toro.

> *Back in the mid '70s I'd see Canadians in Florida working on snapping the blade out of the water, and I started to copy them. Then in '78, Toro noticed that I was coming back to a certain point in my pull-through and just stopping everything, jerking the paddle out of the water. When you stop like*

that, you put the brakes on. Toro said I needed to continue my rotation while I was pulling the blade out of the water. The Soviets, particularly Parfenovich, Chukhrai, and Tinakov, did that really well. They were just beautiful. The prevailing philosophy was that you had to get the power on up front, and get the blade out of the water before the blade got to your knees, but these guys were pulling back quite far. The boat would really run smoothly, and it was because they were continuing to keep the power on as the blade came out of the water.

1980 Olympics

In good health and with the prospects of competing in the Olympic Games, Barton faced the 1980 season with renewed energy, and credits this year with a big jump in performance. One of the reasons for this was his association with Toro, who was named the Olympic Team coach.

Toro's influence didn't reach its peak until the 1980 season. Barton was in college then, but took off the spring semester to spend two months in Florida working with Toro and the rest of the U.S. Team. "I think I put in the highest volume during that time that I've ever done," Barton recalled. Toro had him and the others regularly spend two hours at a time on the water. These workouts consisted of very long intervals, such as 10 times six minutes with two minutes rest. The athletes would train twice a day like this for two or three days, and on either the third or fourth day, they would have a time trial in the morning and the afternoon off. Initially, the time trial was two times 10 kilometers: do a 10 kilometer time trial, rest an hour, and do another one. They did that for two weeks, and then went to two kilometer time trials — three of them at a session. At the end of the two months, they were doing 1,250 and 1,000 meter time trials, and a 500 or two right at the end.

Most of these long workouts were competitive with boaters paddling side by side. The time trials, however, were not. In these, the athletes started one after the other and raced against the clock. This, Barton guesses, was "perhaps because Toro wanted you to get more of a feel for your own pacing, rather than racing somebody else."

I've seen this happen a lot. Often when people train together, they learn how to play mental games with each other. For example, they know that if they go hard to a certain point in a workout, they can break the other person and then they can back off. But if you're out there on your own, it's just a matter of going at your own pace and you know that there's nobody beside you who is going to back off when you break them. So you just have to go and do your fastest time, and then at the end of the time trial you can compare times.

During this preparation for the 1980 Olympics, Barton changed his technique a bit. He concentrated more on rotation, "using a low body rotation," and he lowered his top arm on the push-through. Toro always was in the motor boat giving him feedback about his technique.

Initially, he didn't like my top arm push. He thought I was keeping it bent too long, instead of pushing straight out. However, after some work, Toro decided he liked the new technique.

Barton has some interesting comments about stretching in order to improve his torso rotation.

> *Initially, I did some stretching with putting a bar across my back, sitting on the ground as though I was in the kayaking position, and just twisting as far as I could. When a lot of people do this exercise, they just go back and forth. But I would twist and try to hold it in the stretched position for a second, because you actually need to do that when you are paddling. You rotate out, and then you need to maintain that position while you are putting the paddle in the water. A lot of people rotate out, but then they come back before they get the paddle in the water. A little later on, probably around 1984 or so, I occasionally did some stretching where I would be sitting down and bend one leg up and twist to the side to stretch my back. Other times after weightlifting, I would just sit down, put my feet against the wall as though it were a kayak footbrace, and just twist, put my left elbow on the outside of my right knee, and rotate as far as I could, and do a couple of air strokes, just trying to use that rotation.*

Another thing he thought he learned during 1980 was "just concentrating during the workouts and really putting out a good, consistent effort."

> *I would think about what I was doing the whole practice and really force myself to do it. For example, if I felt unstable extending forward, I'd force myself to extend anyway. And if I was in the middle of a long workout and it felt hard, rather than slacking off, I'd force myself to put in that extra effort.*

Throughout the period in Florida, Barton could see himself improving relative to the other athletes there, his brother Bruce, Steve Kelly, and Brent Turner among them. "I'd usually have the fastest time trials," he said, "but Terry White was coming on at that time and was pushing me sometimes."

The Carter Boycott

Even before the U.S. Olympic Trials, the athletes training in Florida knew that they probably would not get to go to Moscow. Rumors of a boycott came during the Winter Olympics, during the TV coverage. In talking about the Winter Olympics, newscasters mentioned that the Soviets had invaded Afghanistan, and Barton recalled "somebody said we shouldn't go to their Olympics."

> *After that, a lot of people started calling the White House saying 'Let's boycott the Olympics.' 1980 was an election year, and the athletes became Carter's pawns to play with to try to drum up votes. So we didn't go. I was opposed to the boycott. My view is the whole point of the Olympics is that they're not supposed to be political. Back in the Greek days, they used to stop wars to hold the Olympics, and I don't see what's wrong about that! I just wanted to go to the Olympics and race against the best people in the world. I didn't think it was right to not allow us to compete. I felt it was more of election politics rather than really hard international politics. We didn't go to the Olympics, but we still sold them grain. Which had the greater impact?*

But Barton did not let the boycott disturb his enthusiasm for training.

I think the reason it didn't devastate me was because I was feeling good. You know, it's always easier to take when you're feeling good. And I realized that I was only 20 years old; I was not at my peak anyway. I felt a lot sorrier for the people who were at their peak, or for whom it was the last chance to go to the Olympics.

After the announcement of the boycott, the U.S. Team competed in a few major international events. At Nottingham, England, where almost all the top boaters competed, Barton raced in the K-1 1,000 and got seventh. He might have placed fifth had he not been mistaken about the finish line and stopped paddling too soon. At Duisburg, Germany, with the Soviets and East Germans absent, he took second in the 1,000 with a 3:57 into a head wind. At the end of the season, he competed in the Sella, a Spanish marathon race lasting about 80 minutes, in K-1. He placed third, largely because there was a portage in the race "and two other guys outran me."

In summing up the 1980 season, a pivotal one for him, Barton said:

I think the main thing was that even though I didn't go to the Olympics, I realized that now I could compete with the best in the world. I saw the results from the Olympics and figured I could have been between sixth and eighth.

Viral Illness

Barton was excited after the 1980 season: "I should be in the finals in the 1981 Worlds, and if I improve a bit more, I could get a medal." He knew how hard he had trained in 1980 and he resolved to do it again this year. However, this time he was taking a full load of classes at the University of Michigan. He also joined a fraternity and spent a lot of time there. "I just wasn't resting enough," he recalled. "That spring I came down with a viral illness. Everything just caught up with me." It took him a year and a half to get over it.

I just started getting real tired. I'd go out for a workout and half way through I'd wonder why I couldn't do more. Then I started having headaches when I got up in the morning. A lot of times, I felt nauseous. I could go to classes and function, but I felt terrible. After school got out in May, I saw a doctor who took some tests. He said I had some type of viral illness, but he couldn't say more than that.

Barton raced in the U.S. Team Trials that spring, but he wasn't fast enough to qualify for the K-1 or K-2 events. Toro had scheduled him for the K-4, but he decided not to go to the World Championships.

I just wasn't feeling well. I knew I wouldn't perform well if I didn't feel strong. It's one thing when you're coming up and you get smacked over the head; it's a learning experience. But after you've gone through that phase and you've made it to the top, or are at least in contention for a medal, it's hard to go back to getting smacked over the head again —going out in the reps —and I knew that's probably what would happen if I went over to the Worlds.

So he stayed home. He actually continued training some through the year, but by the end of the year he had stopped completely. He tried to return to college in

the fall, but wasn't feeling well and wasn't happy, so he dropped out in December. He saw more doctors, but while their tests showed something was wrong, they couldn't tell what it was or what to do about it. They never figured out what to do about it.

Barton had stopped training completely for a few months, but then started again because stopping only made him feel worse. He didn't train hard, though. "I'd just go out for an easy paddle or an easy run." In the spring he felt normal and started to resume a more normal schedule. He went to the U.S. Team Trials, but didn't do very well — ninth in the K-1 500; sixth in the 1,000. The Team wanted him to do team boats, but he knew he wasn't back to full potential, so once again he skipped the World Championships.

But he did a lot of races back home and continued to improve. He won a B-Team race in Canada. He won all three K-1 events at the U.S. Nationals, although the fastest person, Terry White, wasn't allowed to compete because he had sent in his entry late. "I figured I was back on track."

1983 Season

Barton continued to improve during the winter of 1982-83 and won the team trials in the K-1 1,000. He was seventh in the 500. But he stopped improving after the trials and stagnated through the rest of the summer. Terry White, on the other hand, continued to improve all summer, and by the time of the World Championships in Tampere, Finland, was faster, so he was picked to race the K-1 1,000. Barton had been training only in K-1, so the only other event for him was the K-1 10,000.

He came in eighth in that race, which at the time was a good finish for the United States. That year, there was a large front pack of 10-12 people and Barton led for much of the race. At that time, there was a rule in the 10,000 that on the last 1,000 meters, paddlers had to go into their own lanes and weren't allowed to come closer than five meters to another boat, but the top seven boats all went into three or four lanes, a technical violation of the rule which hurt Barton's chances.

> *There were lots of protests, and several sets of results were released and they ended up not disqualifying anybody. I felt that if people had stayed in their lanes, I might have been able to grind a couple of them down. I still wasn't fast enough for a medal. I might have been fifth or sixth. They changed the rule after that; they allowed wake riding right up to the finish after 1983.*

Influence of Paul Podgorski

During the 1983 season, Barton realized that he needed more work on his technique. In 1982, he was using a lot of rotation, but he also was trying to use every body part to the maximum. This meant that he cocked his upper fist back close to his cheek and pushed out from there at the same time that he pulled with his lower arm. "It was really stiff and mechanical," he recalled.

> *I realized that I was using my arms too much, even though I was trying to use all my body parts. Part of the reason I wasn't doing well in the 500 — worse than usual — was because of another problem: I had such a low, horizontal paddle angle that I couldn't get a good catch. I would just slap the*

water, rather than really catching hard in a more vertical position where you can really apply effective power.

Barton figured this out with the help of Paul Podgorski, a native of Poland who immigrated to the United States in 1980 and became the first full-time paid coach for the U.S. Canoe and Kayak Team in 1983. He emphasized that the arms shouldn't bend past 90 degrees in the stroke, and the push shouldn't begin too close to the face. With this in mind, Barton started watching the New Zealanders. "I knew they had had a lot of success, and Chris Spelius, an American who trained in New Zealand, was always saying how they were trying to keep their lower arms straighter, and they would actually lean away from the stroke at the end, so they could keep their arms straighter." He figured maybe he needed to start doing more of that, so he worked on two things: not bending his arms so much and having his top arms more forward at the catch so he could catch the water more vertically at the front of the stroke.

Paul was always telling me that I looked too stiff. I was really trying to put as much power and emphasis into the stroke as possible, and I ended up being very stiff. I also had a problem with bending my right wrist on the push, which had gotten a little better since I started to work on it. Paul also thought that while my speed was pretty good, I was revving the stroke rate too much to get it. As a result, I figured out that I should move my hands closer together.

Barton came up with this approach more or less without the help of video.

"One of our weaknesses as a team at that time was that we didn't use the video more," he said. "I would have used it every week. When the team gets together for a couple of months during the summer, I think it's important to use the video as much as possible."

By working on his technique like this throughout the 1983 season, he was able to improve his speed by the World Championships. That improvement grew even more by the winter of 1983-84.

Summa Cum Laude

In the meantime, Barton graduated from the University of Michigan in December of 1983. "This was perfect," he said, because he could spend the spring concentrating solely on preparing for the Olympics. It should be noted that he graduated with the highest honors the university had to bestow, summa cum laude, despite the demands of training at a world-class level and battling a year and a half of illness.

I didn't study much in high school, and it was a big shock for me when I went to college. In the engineering school, courses were tough, and I was spending a lot of time studying. I remember thinking, 'I don't know whether I can take this.' Because I had done well on the aptitude test, I was placed in advanced classes. Many students from larger schools had already studied these subjects. I went into this calculus class where most of them had already had a year or two. Same thing in chemistry. But things got better after the first semester.

At Michigan, 4.0 was a perfect grade point average. To graduate summa cum laude required a four-year average of 3.6 or 3.7. Barton got a 3.8. By his own admission, for four years he spent his time studying, paddling, eating, and sleeping.

1984 Olympic Year

After graduating, and spending a month at home, Barton went to Florida for a winter-long training camp under Paul Podgorski.

"I didn't do anywhere near as much volume as in 1980," he recalled. "I followed the Podgorski program, which had me doing more quality training. I think this worked well for me because my endurance base was already high."

During the fall of 1983, besides working on his technique, Barton incorporated one or two speed workouts into his weekly schedule, even though this was traditionally not the time for this, because he wanted to improve his basic speed, especially in the 500m. "I would do one or two workouts at maximum speed: short pieces, all-out, with full rest in between." He continued it every fall thereafter.

> *I figure that if I am doing endurance four or five times a week, if I take one or two days to do speed work, I'm still getting in enough endurance. I feel I needed to work on my weak points, even though the general training philosophy is that during the early part of the training year, you train your endurance and then work on speed later on. But I think if you have a weakness, then you should work on it during the off-season, too. I'm not saying that you place the main emphasis on improving your weaknesses; I think you need to spend the most time building up your strengths. You need to strike a balance.*

After winning the Olympic Trials in the 1,000, Barton and the rest of the U.S. Team went to Europe to race. He began to win medals in major international races. "It felt really great to be back, finally. It had taken me four years to get back to where I thought I belonged," he said.

Performance in the '84 Olympics

Barton believes he performed in the boycott-depleted 1984 Olympics at about the level he thought he was capable of, winning the bronze medal in the K-1 1,000. With the Communist countries out, *Sports Illustrated* picked him to win, although he thought that unrealistic. He had won at Duisburg, but Alan Thompson, the eventual '84 Olympic winner, was ill then. Barton figured he "had a chance at a medal, but only a long shot at winning the gold."

Where did Thompson and Milan Janic, the Yugoslavian silver medalist, gain on him? What needed work in the future? "Just speed over the whole course." That, in turn, broke down to a combination of two things: more physical ability and more technical ability. In the technical realm, he believes he was "just paddling too stiff; really tight and not relaxing enough."

> *When you're stiff, it's almost like you're losing a little bit of efficiency. It's like you're forcing the boat all the time. Just the tension of flexing muscles uses energy, and I think it's a mind-set, in a way, when you're paddling more relaxed, and when you get down towards the end of the course, and you*

feel you've been paddling relaxed this race, you should have a lot left for a good kick. Whereas if you are really tight about the whole thing, and you get that into your mind, I think you start fatiguing before you really need to; both physically, because of the act of tightening muscles that don't need to be tightened, and then psychologically, because you're sort of stressed out by the whole thing.

Where does the tightness come from?

I think I was just trying so hard all year. Actually, I don't think I really started relaxing much until I switched over to the wing paddle in '86. I think the wing gave me a chance to improve. Sometimes when you're stuck on a problem, I think it's better to leave it completely and start something different. That's what happened to me with the wing. It was a new technique, and I didn't need to keep my bad habits.

Nevertheless, Barton ended the 1984 season a happy man. "I was excited to come home with a bronze medal. It wasn't a gold medal, but I was happy. Up to that point, it was 20 years since an American had won a medal in a flatwater Worlds or Olympics, and I was just happy to have one."

Paddle Business

After the '84 Games, Barton went home and started making marathon canoe paddles for a living. He was to do this for two years before moving to California. He had been repairing his equipment since he started paddling. This evolved into building some of his own equipment, and in 1981 he had made an all-composite canoe paddle. At that point, most marathon paddles had wooden shafts and composite blades. People saw his paddle and expressed interest, but since he had spent 30-40 hours on this particular one, he realized he couldn't charge enough to make a profit and still interest customers. So he researched how to make molds and speed up the process. The result was the "Barton Paddle Company." But then, he needed a workshop.

At first, I was building them in the basement of the house, then my father closed in and insulated one of the stalls in an old garage we had, put in a heater and some benches, and said "Here's your shop; build paddles!"

Soon Barton hired two other people and was selling 500-600 paddles a year, all mail-order. "I had a little brochure, people would send in their orders, and I'd ship them out, UPS."

The paddles were called "Blackbucks," after Barton's nickname, "Buck."

It's funny, I had a hard time thinking of a name for them, but that's what people started calling them because they were black, because they were carbon. They'd say, 'Hey I want a Blackbuck!'

Barton ran the business for two years, after which he sold it to his father and brother. They, in turn, hired some of the farm workers to build paddles for a couple of years before they sold the business to Jim Hagen in Minnesota. It is still called the Barton Paddle Company.

Barton gave it up because it consumed a great deal of time and he wasn't making as much money as he thought he could through other work. "I saw the

Olympic Job Opportunities Program (OJOP), and I thought about the chance of using my engineering degree, getting a job out in California, and being able to train through the winter. It seemed like a good move for me." At the end of 1986, that's what he did.

1985 Season — First World Championship Finals

Barton's main goal in the 1985 season was to at least maintain the world ranking that he had achieved in 1984. He remembered four years earlier after the 1980 Olympics, when, as he puts it, "the bottom dropped out for me." He was determined not to let that happen again.

> *That's about what happened in 1985. I didn't really improve. I held even as far as my speed, and I had a few bright spots here and there. The 1,000 at the Worlds didn't go really well. I was sixth, which was a decent performance. I'd hoped to do a little better than that, though. But then I won the 10,000, which I was really happy about.*

There was one other highlight in the '85 season. There was no European tour for the American team prior to the World Championships, as was customary later on, but the team did race in Montreal. There, Barton did a 3:41 for the 1,000 (admittedly with a good tail wind), which at the time was almost unheard of. "But later on that year, Csipes of Hungary did 3:40 at the Worlds — with much less of a tail wind. So you could see that times overall were starting to drop." This trend was accelerated in subsequent years by the development of the revolutionary wing paddle.

Four Year Peak

Does it make sense to take every year as seriously as the Olympic year? Are some World Championship years more important than others? For example, it might be difficult to reach maximum intensity every single year, year after year. It seems to this author that for some people, the Worlds the year before the Olympics is the most important one, because it lays the groundwork for the Olympic year. Similarly, the Worlds the year after the Olympics would be less important, because it is farthest away from the next Olympics. What does Barton think about this hypothesis, and did he follow it?

> *I think it is more of an individual thing. There are probably a few people who, as you say, slack off a little and try to build up to the next Olympics. But I don't think many people do that. One thing that does support your theory is that people tend to retire in four-year cycles, right after the Olympics. Therefore, the next Worlds can be slightly weaker. But I think the people at the Worlds take each one as seriously as the other. Then there are some people — like myself — who take a year off, and generally that would be the year after the Olympics. And that person gets more and more serious the closer he gets to the next OIympics. The year he comes back he's not going to be at full strength.*

1986 — Switching to the Wing

The most significant factor in Barton's 1986 season was switching to the wing

paddle. He believes that the K-1 1,000m event was the main beneficiary of the new paddle.

> *Initially, you didn't see that much benefit. In '85, Kalle Sundquist, from Sweden, was really the only one who had it in the K-1 1,000. In '86, there were various people: I started using it, Jeremy West (the '86 World Champion in both the K-1 500 and the 1,000 from England) used it. There were more people creeping in there, too. And, I think by '87 and '88, the majority of people had the wing, and as people learned how to use it, it was probably about two to three seconds better.*

One might think that the difference would be even more pronounced in the K-1 10,000: if the paddle is more efficient, it should show up more the longer the event.

> *The 10,000 is really hard to compare because it often turns into a tactical pack race. I've been in some 10,000s — like '87 — which are relatively fast. I broke away from the pack about halfway through the race, and the last half was a time trial to the finish. If there's someone pushing you all the way, the wing is much faster. But in other 10,000s I've been in, people are hanging back, nobody is willing to take the lead, so it's tough to compare. But if you had a 10,000 meter time trial, there'd definitely be a huge difference because of the wing.*

The first time Barton used the wing was in Florida in the winter of 1985-86. He borrowed one from a Swede who was training there, using it for only about 15 minutes. At first, he thought that if he didn't use it correctly, "it would want to suck under the boat at the end of the pull-through." He soon discovered, however, this occurred only when you tried to pull it straight back. If you let it drift out to the side a little, the way it was designed to be used, there was no problem.

Nevertheless, Barton's initial reaction was that it "felt terrible." He went back to his old paddle again — and it felt even worse!

> *In that 15 minutes I had adapted to the feeling. It's a different feeling in that if you pull straight back, it does some weird things. But if you let it follow its natural path, it's really solid in the water. It wants to follow a path out from the boat, and if you let the paddle do that, you can almost use it like a brace. You can put a lot of force on it and it really holds solidly in the water, so that when you go back to a standard paddle and pull a stroke like that, the old paddle feels unstable. After you've paddled with the wing, it's more difficult to go back to a standard paddle than switching to the wing in the first place.*

So Barton had to change his technique to suit the wing. Since the wing stroke comes out to the side rather than straight back, he found that he did not have to bend his lower arm as much "because you don't have to worry about going too deep." Going out to the side also helped him get a better push through with the upper arm. "Because the wing stroke goes out to the side, your lower hand finishes farther from your hip than with the standard pull-through. That means that you start your push-through for the next stroke farther away, too. In '82 and '83, I was starting the push almost next to my face." Also, beginning in '86 and even more

so in '87, he began to go more vertical with his stroke.

> *That makes the wing work more effectively because the cross sections of the wing are better lined up with the way the paddle is moving through the water. The farther you get it away from the design angle, the less efficient it is.*

And finally, he noticed a big change in the feel of where the power comes on with the wing.

> *With the old standard stroke, the catch is much harder and it seems like the last part kind of falls off. There's not as much power in the stroke with the traditional paddle. With the first wings, the Swedish ones, the catch was not nearly as strong, but the middle and later parts were more efficient and it was possible to generate much more force later on in the stroke. The newer Norwegian wings have more force at the front of the stroke, compared to the original wings. So first, they improved the middle and later part of the stroke, and now they've improved the front to be closer to what it was with the old standard paddle. So the entire stroke phase has improved.*

Evaluation by Subjective Feel

How does one make a big change in equipment and technique? How sophisticated are the methods you use for this? Is video used? Do you talk to other people? Do you seek to quantify differences in speed in measurable ways like doing time trials? How long do you use a radical piece of equipment before you decide to accept or reject it?

Essentially, Barton made up his mind about the wing just by feel. He had heard bits and pieces about the wing from the Swedes and finally borrowed one, as we have seen, and tried it out.

> *Then I decided that I should try it for a whole workout. So during one of the team workouts, when Paul Podgorski was out there in a motor boat, I just went out with a wing paddle and used it for the entire workout. It felt kind of weird, but I did it. The next workout I went out with a standard paddle, and I did this for about three days in a row, alternating workouts. I felt terrible the entire time because I could never get used to either of them. I thought, 'Well, I can't paddle any more; I better quit this sport! Everything I've learned during the last 15 years seems weird now.' Finally, I decided that there may be some benefits in using the wing and that I shouldn't keep switching back and forth. In mid-April, I decided to give it a month. But even after one week I started to see how it could be an improvement, and that I'd probably go with it. I don't know whether I was actually going faster. I knew my starts were slower initially, but after a week I felt that on long pieces it was definitely a benefit to use the wing. I didn't do any time trials; I just went on how it felt. I did use the video a little, just to see what it all looked like. By the time I started racing that summer, I could tell my times were better, so I felt that my earlier assumptions going on feel were correct and that I was moving faster because of the wing.*

In the European tour earlier in the summer prior to the World Championships, Barton did 3:39 in the K-1 1,000m two weekends in a row (Nottingham and Paris),

and was beaten both times! "Csipes beat me in one of them and he was using a standard paddle!" he recalls.

He took fifth in the K-1 1,000m at the World Championships in Montreal, a bit of a disappointment to him, but at least he was still improving. Summarizing the 1986 season, he said:

> *I just got more experience. I'd had a lot of consecutive training at a high level, '84-'86. I was feeling better, and I started improving again. My technique improved when I switched to the wing. I used the same sort of training that I had been doing in other years.*

Moving to California

At the end of the 1986 season, Barton moved to Newport Beach, California, where he had gotten a job with Fluor Daniel through the U.S. Olympic Committee's Job Opportunities program. The firm builds installations for companies that need refineries, power plants, food processing plants or chemical plants. He worked as a mechanical engineer. He was involved with the equipment installed in the plants. Initially, he worked at analyzing heat transfer processes and later at making calculations for pressure vessels.

Barton worked six-hour days, starting at 9 a.m., having 45 minutes for lunch, then ending the day at 3:45 p.m., leaving his mornings and evenings open for training. He did this for the two years leading up to the 1988 Olympics.

World Champion in the K-1 1,000m and K-1 10,000m

The pre-Olympic year of 1987 was a terrific one for Barton. As a result, we will look at his training (and the next year as well) in great detail. But first, what were the big differences between those years and what he had done before?

> *Going out to California definitely helped. I was able to train on the water year round. I had a good employment opportunity; it was better than the paddle business, because when I left work for the day, that was it, I didn't have to think about it any more. With the paddle business, people were always calling me up and asking me for paddles. I also figured out the wing a little more. I started really thinking about putting the rotation into the stroke, and changing some things around. Initially I used a long wing paddle, but then I shortened it up a bit.*

Group Training

Another difference in Barton's training was that he had others to train with in California.

> *In Michigan after 1980, when Bruce quit doing flatwater, I was pretty much by myself most of the time. Sometimes I would put on a resistor (a rope around the hull which slows down the boat) and go out with the marathon canoes. Once a week, they'd do some kind of intervals and I'd train with them. But there were no flatwater kayakers to train with. In southern California there were. Terry White moved out there with me in the first year. Philippe Boccara (from France) was there, and there were a bunch of other people out there as well.*

Analysis of the Training

Because he kept extensive training logs, it is possible to reconstruct in great detail how Barton trained for both the 1987 World Championships and the 1988 Olympics. These details are in the Appendices of this book, but we will look at an overview here.

His training year ran from early November to the World Championships in August, a total of 42 weeks. He averaged 689 minutes of training per week, a little less than 70 percent of that in the boat. The vast bulk of this was done as two workouts a day, but there were some three-a-days, particularly in the spring.

Other noteworthy items are:

- He paddled on the water all year round.
- He did weights consistently all year, right up to three weeks before the World Championships
- He ran consistently all year, right up to the Worlds.
- After April 19, he cut back on the amount of time on the weights, and almost entirely eliminated the other forms of endurance training — biking and swimming, for example — that he had been doing up to that time.

Norm Bellingham

In 1987, Norm Bellingham became Barton's K-2 1,000m partner. Since he was to share the next two years closely with Barton, it is worthwhile to know something about his career.

Bellingham was born on December 23, 1964. At the 1987 World Championships and 1988 Olympic Games, he was 6 feet, 4 inches tall and weighed 198 pounds. He used a 223.5 cm paddle, right controlled.

Bellingham started out as a K-1 whitewater slalom paddler. He began his career under the tutelage of Tom McEwan at the Valley Mill Camp, in Germantown, Maryland, at the age of 12. There is a story which reveals much about his character and desire to succeed. About to embark on a difficult whitewater river trip, there was much discussion about whether Norm should try it or not. Finally, he reportedly asked Tom, "Well, is there a 50-50 chance I'll survive?" Tom replied that, yes, there was probably at least a 50 percent chance. Bellingham then said, "All right, I'll go."

In 1979, McEwan introduced Bellingham to Bill Endicott, coach of the U.S. Whitewater Team, who had trained many world champion medalists. Bellingham spent the next four years at slalom, becoming the U.S. Junior Champion and finally representing the U.S. national senior team in the Europa Cup in 1982. Inspired by reading Endicott's history of the whitewater world championships, *The River Masters*, his dream in those days was to become world champion in slalom. The East Germans, particularly Olympic champion Siegbert Horn, had set all the records and Bellingham tried to learn everything he could about their methods. Then, in 1983, he was forced to deal with a pair of crushing setbacks: he failed to make the world championship whitewater team and, after a lackluster performance in high school, his plans to attend college were temporarily shelved.

Bellingham left home, rented an apartment with several other athletes and got a construction job. He tried to continue to train slalom, but found it impossible. By the fall of 1983, he realized that he would have to train full-time if he were to become a world champion. He knew he could not afford to do that in slalom, which was a non-Olympic event and received no U.S. federation financial support.

That is when he elected to try sprint racing. Friends told him he had the right size and build for it. Since it was an Olympic event, he would be eligible for United States Olympic Committee financial support.

So Bellingham got a sprint boat and started training. But by the early spring of 1984 — an Olympic year — he had a falling out with the U.S. Team staff, was dismissed from training camp in Florida, and returned to his old slalom coach, Endicott. He asked Endicott to train him in sprint for the Olympics. Endicott had begun his paddling career as a sprint racer, but had spent only one year in the discipline before switching to whitewater.

Endicott, by chance, had attended the 1981 Sprint World Championships, which were held in Britain one week after the whitewater world championships. He took a lot of video, particularly of the East Germans, and most particularly, of Rudiger Helm, the many times world and Olympic champion. Endicott and Bellingham studied the videos assiduously and learned sprint technique. In short order, Helm replaced Siegbert Horn as Bellingham's idol.

Endicott philosophy was that the best way to practice canoeing or kayaking was in the boat all year round. It had worked well in slalom, so the two resolved to try it for sprint. Bellingham scrapped the weight and running workouts that others were doing, substituting more paddling workouts instead. In an upset chronicled by *The New York Times* and *The Washington Post,* Norm won a spot on the 1984 Olympic Team. A few days later, he asked Endicott to go with him to the Games as his personal coach.

Before the Olympics that summer, there was a European racing tour, which conveniently started just after Endicott finished with the slalom Europa Cup. He stayed in Europe and accompanied Bellingham throughout that summer, learning more about sprint and making sure his pupil did, too. Bellingham ultimately stroked the U.S. K-4 in the Los Angeles Olympics, but was eliminated in the repechage.

Nevertheless, he had proven his talent in sprint and hoped he would now be accepted into the U.S. sprint establishment. He began to train with the sprint team in the fall of 1984.

Once again it didn't work out. By the end of the spring, Bellingham returned, asking Endicott to coach him.

New Zealand

As luck would have it, in the winter of 1983-84, Endicott had been invited to coach the slalom national team athletes in Australia and New Zealand. However, he had also heard about the successes of New Zealand sprint athletes, particularly Alan Thompson, and made a point to stop in at Gisborne to see what he could learn about their methods. There he met Benny Hutchings, the coach, saw the athletes train and thought to himself that their approach was similar to the one he and

Bellingham had used in slalom: be in the boat all year round and paddle competitively in group workouts.

He also saw that the New Zealand sprint racers' training was based on the principles of the famous track coach, Arthur Lydiard: very long, hard, distance paddles. Endicott read some of Lydiard's books in a New Zealand library and then went to see Lydiard in person. Endicott emerged from all of this with the notion that if anyone wanted to improve fast in sprint racing, New Zealand was the best place to do it. The country was beautiful, the athletes had the right approach and a good coach and all of them were friendly people. There weren't a lot of distractions in New Zealand, and, most importantly, it was summer there when it was winter in the northern hemisphere.

After the 1984 Olympics, Endicott advised Bellingham to go to New Zealand, but Bellingham wanted to try again with training in the U.S. After the 1985 season, however, in which he qualified only as the alternate on the U.S. Team at the World Championships, Bellingham's father, who provided by far the greatest amount of financial support he received during his athletic career, gave him the money to go.

He was to spend the next three winters in New Zealand, learning from Olympic champions Ian Ferguson and Paul McDonald, their coach Ben Hutchings and others. After the winter of 1985-86, Bellingham emerged from "down under" with an Arnold Schwarzenegger haircut (and build), a slight New Zealand accent and the same old fanatical determination to win.

All or Nothing

He decided that he would race the K-1 500m event at the 1986 World Championships in Montreal or nothing at all. Thus, at the trials, he entered only one event, which meant that the only way he could make the team was to win, that is, beat Barton.

Barton had not lost a singles race to an American at 500m or 1,000m since 1984. Bellingham already had lost to him once this year, in the trials for the European tour earlier in the summer. Still, he held to his strategy and raced only the one event. It was the last one of the trials. Tension mounted as knowledgeable spectators waited to see how this desperate challenge to Barton would turn out. The training in New Zealand paid off — Bellingham won.

The next step was obtaining training money from the U.S. federation. Up to this point he had received none. He asked what he would have to do to qualify for funding. The answer: get sixth or better at Montreal. Bellingham got sixth.

The next year, 1987, he went to New Zealand again, came back in the spring and won the 500m trials again. That year at the Duisburg World Championships, he took fourth in both the K-1 500m and K-2 1,000m, which he raced with Barton.

Bellingham, who had gone from being an outsider, had had to survive a period of direct confrontation with Barton in order to become an insider. By 1987, he was fast friends with his former rival.

New Boats

Besides acquiring a new K-2 partner in Bellingham, Barton also acquired some other new "equipment," a newly-designed K-1 called the Eagle and a K-2 called the Falcon. These boats were the product of a program financed by the U.S.

Olympic Committee and were designed by Eric Haught and MIT engineer Ted Van Dusen, owner of Composite Engineering, a Massachusetts-based firm that made high-tech rowing shells and equipment.

Haught and Van Dusen studied all the components that contributed to drag on a kayak moving through water and looked for an overall reduction of those factors. In their new design no one parameter reached its optimum state, but the overall mix was better. Haught and Van Dusen realized at the project's outset that very little research had been done on the "slender body theory," the type of naval architecture that has to do with rowing shells and kayaks. What little which had been done was not supported by testing. Thus, a primary component of their work was to test actual hull designs by dragging them in tow tanks.

Their work resulted in a number of technical improvements in the boats, among which was a change in the "prismatic coefficient" of the boats, which is the relationship of the volume of the ends to the water line width. The new boats had slightly more voluminous ends and narrower mid-sections. These improvements resulted in a K-1 that Barton thought was faster over 1,000m than the previous design, the Cleaver, and a K-2 that was a similar improvement over the Regina.

> *I feel that the Eagle handles much better in rough water than the Cleaver because it tends to run a little bit smoother due to the buoyancy of the ends. Overall, the balance is about the same as the Cleaver, but it's a different kind of balance. You have initial stability and final stability. The initial stability of the Cleaver is better because it has almost a flat spot on the bottom, so when you put it in the water, it wants to stay on that spot. But the sides of the boat go up straighter, so when you lean it over, the Cleaver is very unstable, has low final stability. The Eagle is very round on the bottom, almost like a half circle. As soon as I saw it, I said 'This is designed by someone who makes rowing shells.' Since it's round, it's easy for the boat to roll from side to side. And it's narrower in the middle of the boat. But this means its sides flare out at more of an angle than the Cleaver. So when you tip the Eagle, it makes the water line wider, and gives you more stability than the Cleaver.*

1987 World Championships

At the 1987 World Championships, Barton won gold medals in the K-1 1,000m and 10,000m and was fourth with Bellingham in the K-2 1,000m. He won the 1,000m by more than three seconds with a time of 3:53.46. This is what he wrote about the race in his training log later.

> *Felt really good. Stiff head wind. Two to four feet behind Csipes and Staehle at 100 meters. Moved into lead by 250 and then did solid hard strokes in windy section and pulled way ahead. Looking around last 250 meters. Felt like I could have gone faster if challenged. 80% speed.*

In the K-2 1,000m, tired from having raced the K-1 1,000 just 90 minutes before, he and Bellingham placed fourth:

> *Very hard race. Went out hard and tried to keep the rate up all the way. Harder than usual 200-600 meters. Dying last 200 meters. Focused on finish line for last 300 meters and tried to go for it — good effort. East Germans went past us in last 100 meters. Felt like timing was off a little.*

Made us struggle and be inefficient. Cost us in the end. 80% speed.

Racing back-to-back 1,000s was a problem that would require considerable thought before the Olympics.

The next day Barton won the K-1 10,000m by 53.53 seconds, one of the largest margins in the history of the event. Here is what his log says about the race:

> *Felt tired at start of race, perhaps from yesterday's races. Missed jump on the start. No pause. Everybody went on "Ready?" (The start command was "ready?" followed by a gunshot; boaters are supposed to wait for the gunshot.] Started to feel O.K. at 4,000m and then the pace slowed. Rode wake until just before (200m) 5,000 turn. Fast people kept moving to the inside so I was at end of the pack on the outside. Moved straight up to the lead and then cut the buoys close. Szabo had to go behind me and I had him off wakes by end of the turn. Kept going and cut in front of him so he couldn't go up the side. 50% speed. Straight wind, head at start (tail at finish).*

Besides moving to California, paddling with other boaters, having a job that facilitated training, and more time with the wing paddle, Barton believes the other reason he did so well in 1987 was peaking.

"I think I peaked better in 1987 than I did in 1988," he said. "In the singles, I felt like I was moving faster at the 1987 Worlds." Does he know why?

> *I think a lot of it was just the way things occurred. Part of it was that '87 was exciting. In '88 there was more pressure; I felt in '88 I was supposed to win, and therefore may have overtrained. I thought 'I better train my butt off for this.' Looking back to '87, there's something else. At the time, I thought it was terrible, but maybe it was a blessing in disguise. In '87 I improved quite a bit between the first European tour and the Worlds. After the tour, I came back and started doing some more endurance work. Then one day I was out mountain biking and ran into a log. I fell over sideways onto a small stump. BOOOM! It went right into my ribs. I just lay there for a while. It really bothered me. For a couple of days I couldn't do anything. I think now it kept me from overtraining. I could do steady endurance, but no high intensity work. It was probably five or six weeks before I had no pain at all, then only a couple of weeks before the World Championships.*

Barton kept meticulous records for both 1987 and 1988 and the reader is invited to study summary charts of the data which are included in the Appendices of this book, beginning on page 106.

1988 Season

Barton continued his job with Fluor Daniel through the winter of 1987-88 and continued to train in California under the same circumstances he had for 1987. Appendix V is a chart showing the minutes per week he trained in 1988. The reader can see that in 1988, not only did the preparation period go on longer, but his average minutes per week was up by three percent. Furthermore, 1988 average minutes per week of water training was up six percent and athletic training was down by five percent, with reductions coming in the categories Swim, Bike, and Other. Running and Weights were virtually the same both years.

Appendix VI shows how many workouts he did in 1988. Compared to 1987, it is immediately apparent that in 1987 he had almost twice as many days off. There were other differences. In 1988, from November to March, he generally did more workouts per month than in 1987. Then, from March to June, he did fewer workouts than in 1987. But from July to the end, he did more than in 1987. Also, he seemed to do more of the work as two-a-days in 1988, and less as three-a-days.

Appendix VII shows the water training broken down by percent speed. If the reader cares to study it carefully, he will see that compared to 1987, he did a larger proportion of his water training at higher percent speeds than in 1987.

Taking all these charts together and comparing them to the ones for 1987, it appears that in 1988 Barton did more total work, the work was generally of higher intensity, and he took less days off. This corresponds with his subjective statements about the year ("I felt I had to train my butt off") and could indicate that he was overtrained for the Olympics, again as he subjectively felt he was.

1988 Olympic Games

We have seen what Barton did all the way through his canoeing career to get to this point. We know exactly the training he did in the few years before the '88 Games. What were his feelings going into the race?

> *In '88 I felt at the Olympics that I was forcing it, like I had to hold on, I had to win. But maybe if I had trained a little bit differently and was a little more relaxed, maybe I could have performed better at the Olympics. Sometimes I've had my best races like this, the pressure's off a little and I feel like I could go harder if I wanted to. Maybe you can't actually go harder, but just thinking you can makes you have a better performance. Things are more relaxed and just happening, rather than you forcing it. At the Olympics I was forcing it, but it still worked.*

Let's return to those anxious moments following the K-1 1,000m event at Seoul.

> *I remember crossing the finish line and Paul Podgorski telling me I'd won. Andy Toro came running down the bank, jumping up and down, saying, "You won, you won!" because he was watching the big video screen which showed I'd won by six inches or more. But the line on that screen was wrong; it was not the true finish line. But anyway, I thought I had it. Then, the scoreboard showed USA second. At first I thought it must be wrong, because even if I had lost, it definitely was by much less than .37 second. But then when they told me to sign papers for receiving the silver medal and I saw that Grant Davies had already signed for the gold, I started to think maybe Paul and Andy were wrong. I heard later that when the officials were looking at the photo finish, the Australians were saying, "Call it a tie, give them each a gold." They blew the photo up really big and it's kind of fuzzy. There are a couple of grains of my kayak hitting the line; there are a couple of air spaces in front of Grant's. Our officials were saying to the Australians, "No, look, we won. You guys take the silver!"*

And that's the way judges finally saw it. They reversed themselves and flashed these results on the board:

Place	Lane	Team	Time
1	8	USA	3:55.27
2	1	AUS	3:55.28
3	5	GDR	3:55.58

My first reaction was to jump up and down and yell "Yeah! Yeah! I've got it!" But I was talking to Grant at the time and I could see how disappointed he was. I reached out and shook his hand. Grant was a real good sport about it and said he was glad to be Olympic champion, even if it was only for 10 minutes!

Double Gold

Ninety minutes later, Barton began the final leg of his quest for a second gold medal and a place in Olympic history. Bellingham picks up the story:

I remember right after Greg's race I got the doubles boat and had it right near the boat dock so that as soon as Greg finished the race, he could see me, paddle over and get out of the singles and into the doubles so he could warm down properly. The singles race was over and I wanted him to start concentrating on our K-2.

Barton and Bellingham were not expected to win the doubles event. They had been fourth at the World Championships a year before and many of the top boats, including Bellingham's mentors, Paul McDonald and Ian Ferguson of New Zealand, were back again.

The Americans were fourth at the 250m mark, third at 500m and 750m, and won in 3:32.42 to New Zealand's 3:32.71. In his training log after the race, Barton wrote, "Was afraid I would die if I went too hard in first part, so paced conservative and kicked last 200 meters. Good kick and falling apart last few strokes. Left head wind. 80% effort."

Aftermath

Life for Barton and Bellingham changed remarkably after winning Olympic gold. Bellingham was able to parlay it into an advertising deal which featured a life-size billboard poster of himself, shirtless, hanging onto a kayak paddle with a "GAP" T-shirt draped over his shoulder. The poster appeared in bus stops all over America and full-page versions were included in national magazines. He studied hard and achieved admission to Harvard College.

Barton's life changed, too:

When I was doing all this training, I didn't think about what was going to happen after the Olympics. Even that day, I didn't think about what was going to happen the night after the races. I kind of felt, my life ends at the finish line, and whatever happens after that, I don't care. But as soon as I came out of doping control, I had 50 people pulling at me: "you gotta do this, you gotta do that."

Once he got back home, he got so many requests and demands on his time, he had to change jobs.

Fluor was willing to work with me, but there was a problem when an appearance would come up at the last minute and I'd have to take three days off. I could see that was causing a bit of friction. They finally said, "you need to decide what you really want to do here." I decided I wanted to go back into training and I had an offer from Ocean Kayak which was more flexible, so I took it.

Barton worked on his public speaking and eventually polished his presentation so much that he was able to land some paid speaking engagements. He learned from Olympic gymnast Peter Vidmar that right after someone wins the Olympics, he can count on a few offers. People don't really care what he says, they just want to see an Olympic champion. As time goes on, though, they want more, they want to hear an impressive speech. Vidmar was able to do this through hard work, and he told Barton about it.

Does he mind spending less time as an engineer and more time as a public speaker?

It doesn't bother me so much now because I realize there are a lot of other opportunities out there and my future may or may not be in the engineering area, although I am still working primarily in engineering. It's true that the more I am involved in doing appearances, the slower I advance in my engineering career, but I think it's all given me the confidence to realize that I'll always keep busy and that I don't think I will ever wonder what to do with my time. I feel that as long as there is a desire to keep learning and doing new things, I'll always have new opportunities opening up for me.

Looking Back

When asked whether he would change anything if he had his life to do it over, Barton gives an interesting answer:

One thing I regret is that I've missed out on a lot of fun times that I've seen my friends have. I think my social life suffered because of the time and energy I put into both my training and schoolwork. I had to go to bed early so I could get up and train while my friends were out doing fun things. Even now that I'm out of school I miss out on a lot of things because of commitments. A lot of times it hasn't been fun; working so hard with so little time to rest or relax, I often feel like I am physically ill. However, if I hadn't been as dedicated, I wouldn't have gotten to where I am. Many of my friends now haven't had the experiences of traveling the world or pushing themselves to the limit. For me, the ultimate thrill is performing at my very best in the Olympics. Overall, I'm happy because of the successes I've had, so I wouldn't change what I've done.

He recognizes that he paid a price for his success. Would he recommend that his own children do what he did?

I've been lucky to keep a career going and win two gold medals. I could very easily have put in all this time and energy and had nothing to show for it if I hadn't won the Olympics. Of course, I would still have all of my experiences and things that I've learned along the way.

I wouldn't advise my children to follow my path, but they'd have the opportunity if they wanted. I wouldn't wish all of my struggles on anyone who didn't truly want to push himself. Few people have the abilities and the dedication to reach the highest level. It takes sacrifice. If my child wanted to compete, I'd be behind him all the way. If he chose another path, that would be okay, too. The key is balance in your life and enjoying what you do.

Does this mean that the idea of winning was more important to Barton than it was to most other people and that is why he was willing to make sacrifices for it, or was the day-to-day training just a little bit more pleasurable for him than it was for the others, or both?

Both. Growing up with the sport helped. I feel I was almost brainwashed at the young, impressionable age of 9-10, when I met Marcia Smoke and saw all these other people who had been in the Olympics and won medals in the Olympics. It made a big impact on me and I thought how wonderful it would be to do that myself. And 10 years later, when I was in college, I still had all those impressions. I also had goals that were in front of me to keep me going, whereas somebody who takes the sport up at 18 already has a lot of other things established in his life. Perhaps the sport is less important to him. I think the goal has to be meaningful to you, in order to truly dedicate yourself to it. I also think you have to have some fun along the way to make up for the times when it's not enjoyable, the times when you've had only five hours' sleep and it's five in the morning and you wake up with a headache and it's cold and rainy out and you have to go out anyway and just push through. You have to get enjoyment out of being in shape, of competing at your best level of performance, and in the training itself. Some days you know you're having a great workout, your paddle is flowing through the water just right and your technique feels like it's right on, and the boat is moving fast. It's like being on top of the world.