

# Greenland Paddling Technique From the Source

Greg Stamer

*This article was originally published in the 1998 November/December issue of Anorak Magazine.*



**A**t this year's Delmarva Paddler's Retreat I had the incredible good fortune to work closely with Maligiaq Padilla, the talented, young Greenland National Kayak Champion. For someone who has dreamt for years of traveling to Greenland and has spent hundreds of hours watching, rewinding and studying the videotaped images of Greenland paddlers, it was a thrill to interact with a skilled Greenland kayaker firsthand.

Anyone who even casually observed Maligiaq quickly realized that his forward

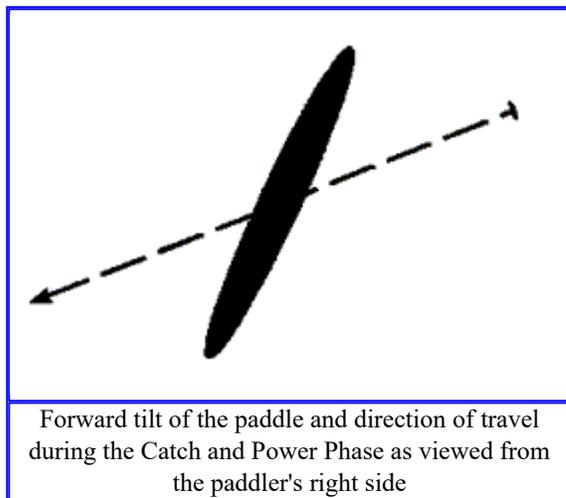
stroke technique was uniquely different from the students and instructors who paddled alongside him. Some of these differences were quite subtle to the eye but others were very pronounced. I had not expected to be surprised. After all, I have read everything I could find, watched and learned from the videos, queried John Heath many times and have worked with many of the best Greenland style practitioners in this country. Why such a different style? My belief is that although the popularity of Greenland style paddling has grown steadily in this country, it has grown in a vacuum, separated from its origins. The style has been adapted to different boats, water temperatures, wind conditions, paddle shapes, body shapes, preconceived ideas and a host of other variables. After all, even within Greenland there are many localized differences of technique and equipment.

But what are the differences? What can we learn from Maligiaq and how can we make our paddling stroke more efficient? Are the discrepancies truly due to localized adaptations or are many Greenland recreational paddlers in this country paddling with a less than optimum technique? This paper will explore Maligiaq's technique and provide possible answers to some of these questions. For the sake of discussion I will refer to the Greenland forward stroke technique that is commonly taught and practiced in this country as the "recreational stroke". This is simply an arbitrary term, I realize that kayaks are still used for recreational purposes in Greenland, but before we can contrast Maligiaq's technique we need to have an understanding of what we are comparing. Following is a very brief overview of the recreational stroke that assumes some familiarity with the Greenland paddle. Please realize that an entire book could be written about this topic and there are countless variations and differences of opinion.

## The 'Recreational Stroke'

**The Catch Phase** (paddle contact with the water). The pushing arm reaches forward in a relaxed and easy manner and the catch occurs with the paddle blade inserted vertically into the water. **Power Phase**. The paddle is driven by strong torso rotation; the zipper on your PFD should rotate from side to side during the stroke. The power of the stroke comes primarily from your torso, back and legs. Once these big muscle groups start the paddle in motion then your arms assist. Some teachers believe that the pushing arm should travel straight along the gunwale, using a strong push-pull of the upper torso. Other instructors teach that the torso rotation should allow the pushing arm to swing toward the center of your foredeck at the end of the stroke. The legs and feet perform an alternating 'dance' on the footpegs and create a solid foundation for the pulling side of the body that provides resistance to your torso rotation. For a stroke on the right side, the left leg and left foot relax and the right leg and foot press against the foot peg. (and vice-versa). The hands and the paddle shaft are kept very low throughout the stroke with the paddle shaft held roughly 30 – 40 degrees relative to the horizon for normal cruising. For sprinting and paddling into the wind, the paddle is held higher. If you consistently leave traces of your knuckles on the foredeck during your stroke then you gain the respect of your peers and are expected to endure your pain in stoic silence (okay, this is a slight exaggeration, but it is not too far off). Your elbows remain close to your sides and point downward at all times. For most paddlers the cadence will vary from 60 – 80 strokes a minute for normal cruising. **Exit Phase** (releasing the paddle from the water). The paddle blade exits the water early, before it reaches the hip. The blade is kept vertical and is sliced cleanly upward and out of the water to avoid lifting water.

## Maligiaq's Stroke Mechanics



There are many similarities between Maligiaq's stroke and the recreational stroke described above although visually they appear quite different. **Catch Phase**. Instead of initiating the stroke with a vertical paddle blade, Maligiaq's blade is tilted forward so that the top edge of the blade is inclined closer to the bow than the bottom edge. The paddle is oriented in this manner with the back of his hands and forearms flat. In other words, the wrists are not cocked to achieve the forward tilt of the blade. **Power Phase**. Maligiaq does not display as much side-to-side torso

rotation as compared to an experienced paddler using the recreational stroke. Instead his pushing hand starts from just below the tip of his shoulder and is levered downward toward the deck, crossing just over the centerline of the kayak. His spine rises slightly and drops down in concert with his arm motion. His elbows stay fairly close to his sides. Viewed from the back, he looks like a boxer making slow motion, downward punches on alternating sides of his foredeck. Maligiaq's paddle shaft was held at approximately a 45-degree angle for normal cruising, higher than the paddles of the surrounding students and instructors (Note - this is the angle between the paddle shaft and the horizon, please don't confuse this shaft angle with the forward tilt of the blade discussed earlier). **Exit Phase**. Instead of releasing the paddle early, Maligiaq allows the paddle blade to travel past his hip and the blade exits the water displaying a

higher degree of forward tilt than during the initial catch. His paddling cadence was very similar to that of the surrounding students at approximately 60-70 strokes per minute. I found it interesting that when Maligiaq critiqued students who paddled by single file, his most common remark was for them to use a longer and fuller stroke. He also motioned for several other students to widen their grip on the paddle.

## **Subjective Impressions and Opinions**

### **The Forward Tilt of the Paddle Blade**

I questioned Maligiaq directly about the canted paddle blade angle and he insisted on the forward tilt of the blade and displayed this technique on both days when he demonstrated his stroke mechanics. To ensure that this was deliberate, I attempted to straighten his blade and placed it in a vertical position for the catch. He shook his head no, and again tilted the top edge of the blade forward. This is consistent with the findings of George Gronseth during his 1990 experience at a training camp in Greenland (see "Learning to Kayak the Greenland Way", Sea Kayaker, Spring 1992"). Gronseth notes, "Even the way the paddle is held for a forward stroke is different. Unlike the way our modern paddles are used, a Greenland paddle is held with the top edge tipped slightly forward. The last three fingers of each hand grip the beginnings of the blades". In addition to these observations, John Heath has been studying Maligiaq's stroke mechanics and has verified the forward tilt of the blade at the catch and the increased angle of forward tilt during the exit phase. I began experimenting with the forward tilt of the blade over a year ago and once perfected, I had the same feeling of accomplishment as when I completed my first roll. Initially this will feel very unusual and you may be worried that the blade will slice uncontrollably and deeply downward. You will quickly learn that this is not the case. The wrists are not cocked but are kept flat during the catch. The canted blade catches the water cleanly, with very little splash. The feel of the water as it flows over a forward tilting blade is a unique and entirely different sensation than that of a vertical blade. My intuition is that the forward tilting of the blade enhances forward lift while the vertically oriented blade enhances drag. Whatever the reason the blade feels more solidly planted with minimal slippage and in my time trials and limited racing experience, top speed is increased. I am the first to admit that this evidence is very subjective and I am working to collect more empirical data in the near future. You will need to experiment to find the proper blade angle that suits you. For a reference, my blade angle at the catch is approximately 60 degrees (in other words angled about 30 degrees forward of perpendicular) for a normal forward stroke. Please keep in mind that this is not a case where more is necessarily better. Excessive blade angles will not only be uncomfortable and difficult to control but may also result in a loss of paddling efficiency.

### **Achieving Power on the "upstroke"**

The forward tilt of Maligiaq's blade increases during the exit phase. This is not due to wrist motion but happens naturally from the mechanics of the stroke, particularly if the paddle is allowed to reach or slightly pass the hip. Maligiaq's paddle angles suggest a technique that is taught by a small number of Greenland practitioners in this country where the goal is to obtain forward motion not only during the power phase, or "downstroke", but also during the exit phase or "upstroke" as well. This can be accomplished simply by retaining or increasing the forward tilt of the blade as the blade moves upward near the end of the stroke. This was much too difficult a subject to convey directly with Maligiaq, but his paddle angles and stroke dynamics strongly suggests that he does use this technique to his advantage. This is quite a controversial

technique but I have found that with experimentation and practice, it works extremely well. If you are skeptical try the following simple exercise. With your kayak stationary in calm water submerge a paddle blade behind your hip, with the blade vertical to avoid disturbing the water. Now tilt the top edge forward and lift the blade from the water. If this motion is repeated correctly on each side, you may be surprised at how your kayak moves steadily forward with very little effort. Of course, this would not be an efficient way to paddle in itself and the speed generated by this exercise is rather modest. The point is that if this supplemental thrust, that is normally untapped, is added to the thrust created during your catch and power phase, then the benefit is significant. When you think about it, there are many parallels between the lift and dynamics of this motion as compared to a sculling stroke. With a little practice you will learn the proper blade angle necessary to create an efficient "kick". The potential drawback is that a flawed application of this technique might cause you to work harder with little or no gain. Doug Van Doren, a well known Greenland style practitioner provided this concise analysis; "I do think while in the water, though, and particularly on the exit, angling the blade so that the top edge is forward really helps to continue thrust. Basically on exit, it means that the blade does not simply slice through the water getting out, without doing any good." It should be noted that Doug, who has excellent stroke mechanics, prefers a vertically oriented paddle blade for the catch.

### **Maligiaq's Hand and Paddle Position**

Visually the "boxer" image that Maligiaq conveys, with shoulder-high hands that lever toward the deck, with elbows close at his sides, was easily the most distinctive feature of his stroke. Students who observed Maligiaq versus Steve Burkhardt and myself noted that Steve and I moved primarily from side to side while Maligiaq moved more up and down. This implies that Steve and I use more of a low torso rotation while Maligiaq uses a strong push-pull of the upper torso combined with torso rotation. When I emulate this stroke I feel the effort move from low in my abdomen and back to the center of my torso. The arms are more active and contribute a stronger push-pull sensation during the power phase. Maligiaq also demonstrated opening the pushing hand on each stroke to ensure good blood circulation and mentioned that this also helps to prevent cold hands. This same technique is well known to recreational Greenland and Euro-style paddlers. John Heath noted that Maligiaq learned his forward stroke from his grandfather and that this stroke is optimized for speed. This would certainly explain the higher hand and paddle position.

Maligiaq held his paddle shaft at a 45-degree angle or higher (relative to the horizon) for normal cruising. If you do experiment with higher hands and paddle angles ensure that your elbows remain close to your sides. Often when recreational paddlers raise the paddle blades high they also raise their elbows away from their body into the not-so-classic "chicken wing" position. If you examine the paddling sequences in John Heath's video "Qajaq Klubben", it will become obvious that the paddle angles and the height of the hands vary from paddler to paddler and in different wind conditions. Experiment and find the best techniques that work for you.

### **Afterthoughts**

I can honestly say that I learned more from watching and teaching with Maligiaq over two days than in my last year of experimentation on my own. If your experience is similar to mine, you may discover that you were already using some of these techniques even though you didn't consciously realize it. As skilled a paddler as Maligiaq is, it is always dangerous to look at a single source as a model to emulate. As you strive to improve your technique keep in mind that no two paddlers walk exactly alike, much less paddle exactly alike. Experiment with these new ideas and other

others that come your way. Incorporate what works over time. Once you have a solid grasp of the proper fundamentals and mechanics, emphasizing your individuality and finding what works for you is often much more productive and satisfying than trying to become a carbon copy of your local (or not so local) 'guru'.

The writer wishes to thank all those who helped with the logistics of transporting Maligiaq and a seal skin boat to Delaware and to Charlie and Cindy Cole and Robin Snow for creating and continuing the Delmarva Paddlers Retreat. Thanks also to John Heath and Maligiaq for making this exchange possible as well as the correspondence and knowledge I have gained from John Winters, George Gronseth, Steve Burkhardt and Doug Van Doren.

## *Epilogue 2002*

This article was written in 1998 and reflects the state of the Greenland paddling community in the United States at that time. The canted blade stroke, which is now such a common technique, was extremely controversial, and for this reason so much attention was given to contrast it against the "recreational" or rather, low and short stroke.

Some people continue to be confused by the cant of the blade or go to extreme measures to achieve a certain degree of tilt. In one case one student came to class with popsicle sticks epoxied to the paddle shaft, so that he could hold the paddle at exactly the same blade angle that Maligiaq mentions in John Heath's "Rolling with Maligiaq" videotape. It doesn't need to be so complicated! If you have a paddle that is sized so that only your thumbs and forefingers are on the shaft, and your remaining fingers are draped over the blades, you will find that the paddle cants forward naturally, since the palm of your hand is also canted forward in this position with a neutral wrist (study the image of Kaleraq Bech above). The canted blade stroke is not unique to Maligiaq or his Grandfather who taught him this stroke. It is a very common technique in West Greenland.

The article hints at using the abdominal muscles, "His spine rises slightly and drops down in concert with his arm motion". In later years, working with Maligiaq and other kayakers in Greenland I would learn that this "abdominal crunch" is a powerful and very common technique in Greenland. It is most visually apparent in a strong sprint but is still used in a fast touring stroke. The crunch is made possible by the low thighbrace, or *masik*, that contacts your legs just behind the knee. The low volume Greenland kayaks permit very little knee bend. This combination of low *masik* and fairly straight legs makes driving your torso forward (along with a diagonal torso rotation) very powerful. The torso starts erect and then bends forward to help drive the paddle. The feeling of support just behind the knee makes this feel somewhat like performing a sit-up with a helper holder your legs.

The Greenlanders use their legs for a strong lower body foundation. If you sit on the ground in a kayaking position (knees slightly bent) and drive one leg forward, as if pushing against an imaginary footbrace, note how the opposite knee rises. Many Greenlanders report that this knee pressure, coming from the knee on the opposite side of the blade in the water, is the foundation of their stroke. It is very apparent in an a low-volume Greenland kayak, but you may need to pad the underside of your foredeck to feel this effect in a large volume kayak. Pulling up on this knee, into the low *masik*, also helps to drive the abdominal crunch mentioned above.

The torso rotation is strong but visually subtle. It feels somewhat like performing a sit-up where you touch the opposite knee, which is why I often refer to it as a diagonal rotation.

Achieving "power on the upstroke" happens naturally if your pushing hand moves forward and downward, starting near your shoulder or chin and ending near the foredeck, crossing the centerline. The effect of your pushing arm moving downward causes the blade in the water to rise.

Also refer to [John Heath's write-up on Maligiaq's use of the canted-blade stroke](#), that was published about six months after this Anorak article.

For a greater understanding of Greenland forward stroke methods, please review the [Greenland Kayaking Video clips](#) on the [Qajaq USA website](#).



[Back to Home](#)