

## Different Strokes in World Cup Slalom

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Sir Arnold Lunn, the man who invented modern slalom racing in 1922, said in his 1930 book, *The Complete Ski-Runner*, “There is only one form of turning in which edging actually assists turning. A Telemark turn in breakable crust... In every other form of turn edging plays a negative role.” Were Sir Arnold to see the pictures on this page of Giorgio Rocca and Ted Ligety, who are currently holding down the first and second spots in the World Cup slalom standings, he might change his mind. The amount of edge angle these skiers achieve, and hold, is mind-boggling. It enables them to carve extremely tight turns and take very direct lines between them.





While there are many similarities in Rocca and Ligety's skiing, there are also many differences. Still, their times through this section of the first run of the World Cup slalom at Beaver Creek this year were virtually the same.

Rocca's technical style is compact and controlled. If he skis out of a course, it's usually due to a tactical error rather than a technical one. He maintains constant contact with the snow, and threads a line through combinations with minimal direction changes, as he does through the hairpin in this sequence.

Ligety pushes the technical envelope more. No one in the top group of slalom skiers holds higher edge angles, particularly in the fall line. The forces produced by his turns require a lot of inclination, which in turn demands radical movements in the transitions linking those turns. Notice, for example, how deeply he flexes in the middle of the transitions of these turns, and stretches out as his skis approach the fall line. Just as much as he edges and bends his skis in the meat of the turn, Ligety decisively releases them at the completion of the turn, allowing them to run with a minimum of drag.

Rocca's approach, in contrast, is more contained. Instead of stretching out going into the turn like Ted, he keeps his shoulders ahead of his hips at all times, moving forward into the turn. Where Ligety absorbs the pressure at the end of the turn almost entirely by letting his knees come up in front of him, Rocca augments a more moderate knee flexion with folding forward at the waist. This absorbs just as much pressure, but reduces his fore-aft motion.



The sequence above is pure Ligety. He demonstrates remarkable range of fore-aft movement, much more than Rocca in the same gates, below. While it's natural for us to focus on the two middle frames where Ted appears to be dangerously back on his skis, it's important to look closely at the first and last frames. In these, he is well-balanced over the forebody of the outside ski. It is particularly important to see in the last frame that his outside ski has barely reached the fall line, but is already carving on this steep, rock-hard pitch. The radical transition is calculated to deliver Ted from the first frame to the fourth with just the right amount of inclination, edge angle, and fore-aft pressure distribution to pull off the tightest turn he can hold.



These two leading-edge skiers show that there is clearly more than one way to make it to the podium in a World Cup slalom race. They also show that things have changed considerably since Sir Arnold Lunn set the first course eighty-four years ago.