



Mark Cavendish has won his second stage of the 94th edition of the Giro d'Italia after outsprinting Davide Appolonio and Alessandro Petacchi at the end of the 184-kilometre 12th stage from Castelfidardo to Ravenna.

Why did Mario Cipollini (who holds the all-time record of 42 stage victories) say “*it will be extremely difficult to beat Cavendish in Ravenna*”?

"On every stage there's a different finish line, different weather and sometimes a train that changes the dynamics in some unexpected way," said Van Poppel, who is now a sports director with the Vacansoleil team.

The train is the ultimate expression of teamwork in a sport defined by individual victories. At the end of a stage, teammates ride in a single-file group near the front of the pack in an attempt to launch their designated sprinter to victory. One rider will pedal as hard as he can for a few hundred yards then pull off to the side to let the next rider do the same right up to the finish line. By keeping the pace at maximum speed in the last kilometer, the train makes it difficult for other riders to pull away.

The most important element of the train, which is usually made of three or four members of the nine-man team, is the lead-out rider who is the last one to launch the sprinter vying for victory. Cavendish's last man, Australian Mark Renshaw, is considered by many to be the best in the business.

In the 1990s, Cipollini had arguably the most effective train professional cycling has ever seen, but it has proved tough to replicate. "Cipollini and his train controlled the race so perfectly that flat stages always ended in a sprint and they went so fast for the last five kilometers that nobody could pass them as they approached the finish line," said Van Poppel.

But winning a sprint comes down to more than simply positioning your team correctly at the end of the race. Cavendish often finishes at the very back of the pack on days he knows he can't win, saving as much energy for later stages. The Giro climbed Mount Etna twice last Sunday and Cavendish finished almost 27 minutes behind the winner, last among the 189 riders with a time barely good enough to qualify for the next stage.

Sprinters also need teammates who can push hard in the middle of a stage to help the peloton catch up with breakaways and ensure there is a sprint finish to fight for. On flat stages Cavendish's HTC-Highroad team and Petacchi's Lampre-ISD are often at the front of the peloton chasing down breakaway riders.

Because a race like the Giro also consists of time trials and stages with mountains and hills that make a mass sprint finish impossible, sometimes only five or six stages in the three-week race will be won by sprinters, which makes chasing down breakaways paramount.

A sprinter's individual strengths will also dictate the team's tactics. So-called pure sprinters such as Cavendish, who is nicknamed Cannonball for his explosive acceleration, usually wait until the last 100 meters to break away from the pack.

Petacchi, by contrast, couples endurance with acceleration, so he often tries to anticipate the other riders by accelerating earlier, usually with about 250 meters left in the race. Yet starting a sprint early risks tiring a rider out before the finish, a risk Petacchi took in Parma because he knows he can't beat Cavendish if they start sprinting together with 100 meters left to the line.

"Experience is very important and the more sprints you do the better you get because you find yourself in situations you have faced before," said Petacchi, who has won 22 stages at the Giro. "It is fundamental to have good positioning in the last few kilometers... but then it comes down to instinct. You have to react at just the right moment."

That instinct means knowing on a given day whether to start sprinting with 200, 150, 100 or 50 meters left. It also means knowing which competitor to follow towards the finish line and whether to try to pass him on the left or right. And all this while knowing that a spectacular fall that can end a season, if not a career, is always a possibility.

"When you are in the group pushing as hard as you can with people gaining on you and the finish line off in the distance, you have to be convinced you can win," said Petacchi.