FloJo: The World's Fastest Woman

Story:

July 16, 1988, was an extremely hot, humid, and windy day in Indianapolis—not ideal conditions for the women running the quarterfinal 100 m race at the U.S. Olympic Track and Field Trials. At the beginning of the day, the 100 m world record of 10.76 seconds set in 1984 belonged to Evelyn Ashford.

While waiting to run the race, the women runners warmed up for about 20 minutes. They started by jogging a few laps around the stadium. Dressed in a purple one-legged outfit and sporting long bright fingernails, Florence Griffith Joyner (FloJo) focused on maintaining a steady pace, which was about half the speed she would achieve during a race. Running down the track at a slow but constant speed helped her to relax, find her breathing, and warm up her body. Her mind was focused on the upcoming race. Every so often, she would interrupt the slow steady pace of the warm-up routine with a few sprints to fire up her muscles.

Then it was time for the race to begin. No one could have anticipated how FloJo was about to shock the track and field community. Even though she was better known for running the 200 m, FloJo completed the 100 m race in 10.60 seconds to beat Ashford's record. The crowd went wild while her competition stared at the clock in amazement. To the audience's dismay, the measurement of the tailwind on the track was higher than the maximum allowed (2 m/sec), and the announcement that FloJo's time had been thrown out was met with loud boos. But achieving such an incredible time convinced FloJo that she could push herself to

run faster than she had ever thought possible, even without the help of a tailwind. The race would have to be repeated.

Again the runners lined up at the starting line, crouched with their feet in the starting blocks. The starting gun let out a loud *crack* as the judge pulled the trigger, and FloJo exploded from the starting blocks. With her body in a low forward-leaning position, she took smooth, short steps that lengthened as she gradually straightened up. By 10 or 15 m, each of FloJo's steps grew in length, and she evened out her stride as she tried to increase her speed as much as possible.

By 50 m into the race, FloJo had a huge lead as she tore down the straight 100 m track. FloJo was still increasing her speed by driving her arms hard and fast, running nearly at maximum speed. According to the measurement devices on the track, she reached her maximum speed of 10.87 m/sec (over 24 mph!) and worked to hold that speed as long as possible, knowing she could not maintain it for long. During the last 15 m of the race, FloJo focused on minimizing how much she slowed down by relaxing her limbs and trying to maintain perfect technique. She knew that exerting too much effort in this stage would cause her muscles to tighten, slowing her down at a quicker rate.

As FloJo crossed the finish line, the clock stopped at 10.49 seconds. A hush went over the crowd because FloJo's time was so unbelievably fast. Everyone, including FloJo, assumed the tailwind must have been strong again. "When I saw the time, I could not believe it!" an amazed FloJo said. All of the racers and fans turned to look at the wind gauge—it read 0.0! As the crowd realized that her

record-breaking time would stand, they let out a deafening roar. FloJo was thrilled with her performance, saying, “I had a good start, a relaxed middle, and kept my knees up at the end. It was more or less a perfect race.” She later finished the Olympic trials by running a 10.70 in the semifinals and 10.61 in the final, both of which also beat Ashford’s record time.

Challenge:

Much of FloJo’s success can be attributed to the coach and runner examining every aspect of the race to figure out how her performance might be improved. The “need to know” is what the coach and runner look for in their studies of the race. What are the variables? How does the study tell whether her speed for the 100 m truly reflects her actual speed over the entire distance? That is, was she running faster or slower during different parts of the race?

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