NSA Photosequence 14
400 metres Hurdles

Andre Phillips (left)
Edwin Moses (right)

Sequence by Helmar Hommel © Hommel AVS 1990

The sequence shows the clearance by Andre Phillips and Edwin Moses of the tenth hurdle of the men's 400 metres Hurdles final at the Games of the XXIVth Olympiad, Seoul, 1988. Phillips won the race recording an Olympic Record of 47.19.

Andre Phillips (USA)
Born: 5 September 1959
Height: 1.88m
Weight: 84 kg
Best time: 47.19
Olympic Champion 1988; World Cup winner 1985.

Edwin Moses (USA)
Born: 31 August 1955
Height: 1.87m
Weight: 77 kg
Best time: 47.02 (1983)

Commentary
Harald Schmid

In order fully to understand the situation at the 10th hurdle as shown in this photosequence, it is necessary to know that it is the last hurdle of the race and that both athletes are very tired. General body fatigue is exacerbated by a high local level of lactic acid in the muscles.

Fatigue is a significant factor in the last part of a 400 metres Hurdles race, especially in the approach and clearance of the last hurdle, for the following reasons:
- The approach to the hurdle is disturbed by a changing stride length and stride pattern. This prevents optimum concentration upon and preparation for hurdle clearance;
- fatigue hinders potential stride variation;
- it is more difficult correctly to estimate the approach distance (a process known as targeting);
- a correct hurdle clearance requires full unimpeded muscle strength and con-
centration. At this point in the race, then, it is common to see lower standard athletes exhibiting bad hurdling technique.

Hurdle 10 was not a significant factor determining the results of this particular race, as Phillips is already clearly ahead of Moses. Both athletes clear the hurdle with the left lead leg, which is in both cases the 'best' or favoured leg.

**Phillips**

1-3 Phillips approaches the hurdle in preparation for clearance.

4-5 The trail leg is still fully extended. Drive continues until the last moment; there is no bending of the knee and no premature take-off. This is ideal.

6-8 The lead leg is fully extended, with the left arm in the perfect position. The right arm is slightly too high, and the head position too low, to be described as ideal. This is an element of personal style and as such is acceptable.

9 This frame shows the foot of the lead leg in the perfect position.

10-12 He is very active over the hurdle. He cannot be too tired.

12-13 The foot of the trail leg is in the ideal position, with the toes drawn up.

14-16 The lead leg comes down straight. Touch down (16) occurs very close to the body's centre of gravity. This allows for the continuance of full speed into the next part of the race.

17-18 The right arm is under good control and not too far behind the body. The upper body is in danger of twisting to the right if the arm is not controlled in this way; this has a detrimental effect upon the subsequent stride.

19 The trail leg knee is held high: this is very important as it enables a fast, long, straight stride in the recovery from hurdle clearance.

**Moses**

4-7 Preparation for the hurdling action begins at a relatively long distance from the barrier.

8-9 The trail leg is fully extended (9). Drive is maintained until the last possible moment; this also serves to prepare the lead leg for the attack.

10-12 As he is so far away from the hurdle, he travels vertically as well as horizontally. His body is therefore in a higher position than Phillips'. He has to 'fly' a long way.

12 The lead leg is already pointing downwards, even though it is still far from the barrier.

13 The lead leg is now fully extended. The foot is in the ideal position, but too far from the barrier. Body position is too high. The head is up, 'targeting' the hurdle.

14 The lead leg is already starting to move downwards. The loose, high trail leg demonstrates exceptional flexibility.

15-17 The downwards movement continues. The left arm is not in the best position, but it is an aspect of his personal style and is very effective. He is 'passive' over the hurdle, i.e. he lets himself travel.

19-20 Touch down is not close enough to the body's centre of gravity, causing an interruption in the main forwards direction of the movement.

21-25 The knee is held high, facilitating a long stride after the hurdle.

24 The toes are still drawn up, directing the movement of the trailing leg.

22-24 The right arm is too far back, so that the upper body twists to the right.

26-28 The upper body twists further to the right. This causes the athlete to lose rhythm and hinders the maintenance of full speed.

**Conclusion**

Despite obvious signs of tiredness, Moses exhibits an almost perfect management of the 10th hurdle. He has a better technique than Phillips, but Phillips clears the last hurdle with superior strength. The latter is by far the most powerful at the last hurdle.