Welcome to Masse 101

Tips for mastering one of the game's most difficult shots.

by BOB JEWETT

I'VE LIKED MASSE shots ever since Willie Mosconi told me to shoot them.

It wasn't in person, but his *Winning Pocket Billiards*, the book that first taught me how to play, has two masses among the fancy shots at the end. To be able to amuse and amaze onlookers is enough reason to study the shots, but there is a practical side to masses. If you know how to play them, you'll be ready for those not-so-rare situations in games when a masse is the right shot to play.

First the theory. In his 1835 book, which has recently been reprinted, the French engineer Gustave-Gaspard de Coriolis described the aiming system shown in **Figure 1.** The good news is that the system is accurate as far as it goes: the bad news is that the shot is still largely by feel. The system tells you which direction the cue ball will take after it stops curving. What it doesn't tell you is how long the curve will take; you control that by the speed of the hit.

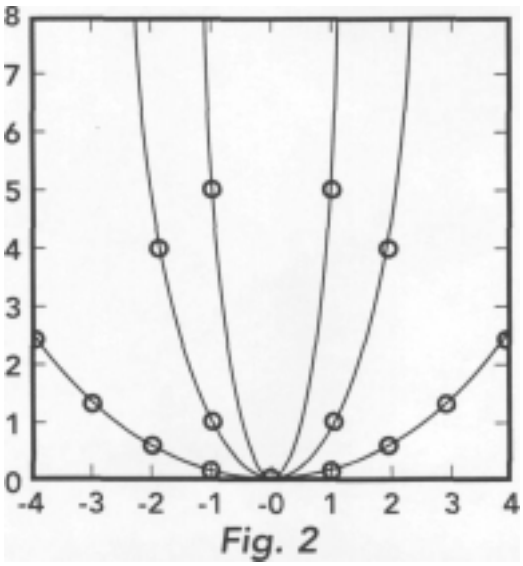

Fig. 2

In the side and top views, note the two points on the cloth. The point where the cue ball is resting is obvious. Harder to visualize is the point on the cloth that the stick points to, which we'll call the "aiming point." Coriolis' truly remarkable result is that the final path of the cue ball will be parallel to the line joining these two points. This is shown in the final part of the figure where the cue ball starts out parallel to the line of the stick and goes immediately into a curve, perhaps 45 degrees of path change, which requires about 45 degrees of elevation.

Suppose you want the cue ball to take a full right turn — 90 degrees — after the curved part of the path. For this you have to adjust the elevation and perhaps add some draw so that the stick points on the cloth to an aiming point just to the right of the resting point as seen from your side of the cue ball. This visualization is hard because your eye cannot look directly along the axis of the stick, so there is some guess-work about where exactly it points. Also, the aiming point is not very far from the resting point, so accuracy is hard.

Note that if you want the cue ball to go out and then back towards you. the aiming point must be under the nearer side of the cue ball, so the line from the resting point to the aiming point also comes back toward you.

What is the shape of the curve? It is always a parabola.

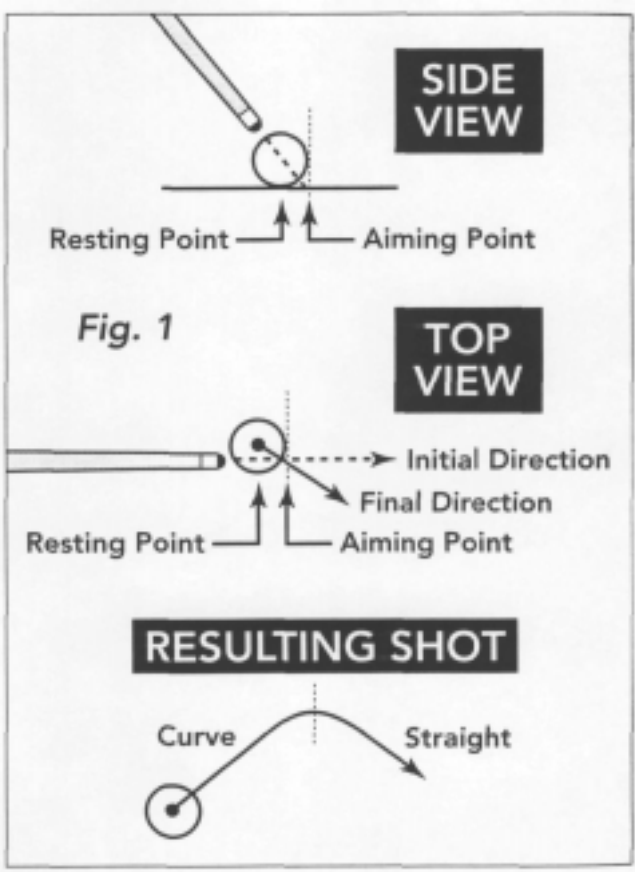

Fig. 1

Reports of cue balls going in "circles" are mistaken, and figure-eights are impossible. Some typical parabolas — in case you wiped them from your mind as soon as you escaped from algebra — are shown in **Figure** 2. In theory, any section of any of these curves, expanded or shrunk, is a possible path for your cue ball.

Some parabolic paths that solve a single shot are shown in **Figure** 3 *(p.34)*. In each case, the line of the cue stick sets the initial direction of the cue ball and the arrow head marks the end of the curved portion of the path. Can you find a stick alignment and an aiming point for each of the three

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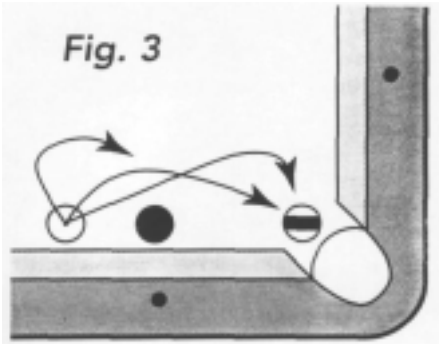
shots? Can you imagine about how much elevation is required for each?

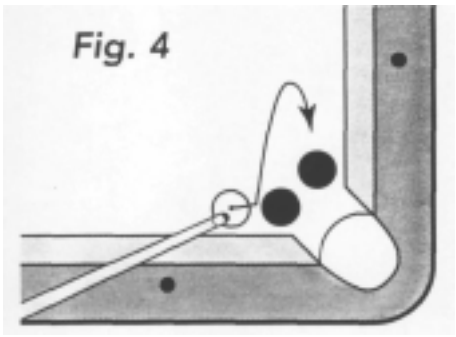
While Coriolis will help you get the direction right, the extent of the curve — how far the ball goes out before it breaks — needs a feel for the speed of the shot. That requires practice, and useful practice requires good fundamentals. You must approach each shot methodically and execute it with as much mechanical stability and accuracy as you can muster.

A firm, raised open bridge is essential. If you practice the shot in Figure 3. the rail provides additional height. This shot does not need the "flying bridge" you might see trick shot artists use. with the hand entirely off the table. Find the minimum elevation and speed needed to make the shot; that's also the highest-percentage way.

If you do need a longer bridge for more power with the cue ball near the rail, sit partly on the rail so you can form a normal closed bridge on your thigh. If the cue ball is a diamond from the rail, try placing your left knee out there as a bridge platform. Be creative and flexible, but above all, be stable.



There are two common grips to use. For relatively soft shots — nearly all practical shots in game situations — the dart or pen grip gives best control. Extreme power comes more easily with the normal grip. In either case, your forearm should still be perpendicular to the cue stick even though everything is up in the air.



Next time I'll go over more equipment problems and some practical uses of masse in game situations. Until then, work on the following practice: With the balls set up as in Figure 3, try to pocket the duck with the absolute minimum of speed needed. Ideally, the cue ball will not have enough energy to get to a rail after pocketing the ball. Also. keep the elevation down to make aiming easier. Once you are comfortable with the shot as shown, move the cue ball and the blocker back a diamond at a time. As you progress up the table, remember, keep the speed down!

For a little fun. try the shot in Figure 4. This position appears three times in the movie *The Hustler,* but the path shown is how Allen Hopkins likes to shoot it: minimum speed to make the shot.

Note: If you plan to practice these shots on somebody else's cloth, ask first.

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