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Peace Baby

For almost two years now I have enjoyed the distinct pleasure of collaborating on various projects with David Alciatore, better known throughout the billiards world as Dr. Dave, a genuine title as he is a professor of mechanical engineering at Colorado State University in addition to his work as a *Billiards Digest* columnist. Initially I joined him to assist with his famous high-speed camera work where we taped dozens of shots and observed the game's principles at work in ultra slow motion. Quite often the high-speed camera reveals results that conflict with beliefs widely held among some of the game's most experienced players. Other times it's simply great entertainment to watch the shots play out in super slow motion. Recently we finished taping the *Video Encyclopedia of Pool Shots*, an extensive video collection of over 700 shots on five DVD's. The first edited video looks excellent, and we hope to make the set available for Christmas.

Because of his background one would expect him to offer comprehensive technical analysis of various billiards phenomena, and that's exactly what he provides. After applying scientific principles to his experiments and observations Dr. Dave gives us precise and reliable explanations for just about anything we see on the pool table. The information he provides is always accurate and often accompanied by complex graphs and charts to support his conclusions. But he is also credited with a simple and reliable technique for predicting cue ball paths across a wide range of cut angles—the 30-Degree Peace Sign Method.

Stated simply, for cut angles that range from $\frac{1}{4}$ ball to $\frac{3}{4}$ ball hits on the object ball, a naturally rolling cue ball will deflect from the object ball on a path that is roughly 30 degrees to its path toward the object ball. Certain cut angles yield a slightly smaller angle while others yield a slightly larger angle. Across the range of cut angles however the average cue-ball deflection is 30 degrees. And, for the shots where the angle is slightly smaller or greater, the difference is small enough to make a reliable prediction for the cue ball with the 30-degree rule.

To employ the rule while playing we can use a peace sign to predict the cue ball's path. For most people, a standard peace sign approximates 30 degrees very closely. If you're not sure about your own peace sign you can check it with a drafting triangle. If that's not available draw a right triangle with a 10-inch base and a 6-inch side at the right angle. The angle between the base and the triangle's hypotenuse is 30-degrees, and you can hold your hand over that angle to calibrate your peace sign.

Let's look at two examples where the peace sign rule can be useful. In the first diagram we have a shot on the striped ball that sends the cue ball toward those two nearby solids. If we can roll the cue ball between the solids, shape for the stripe on the right short rail will be easy and natural. So, we can use a peace sign to determine whether the cue ball will find its way between the two obstructions. As shown, the index finger indicates the path the cue ball will take to the striped ball. And, as we see, the middle

finger points directly between the two solid balls to indicate that a rolling cue ball will pass between them and continue for position on the next ball. To make an accurate prediction place your hand so the point where the two fingers would meet is directly over the spot where the center of the cue ball will be at contact. In other words, position that point one-half ball width away from the object ball on the aim line. I indicate that point with the red dot in the diagram. On your hand it's close to the space between the top knuckles for your index and middle fingers.

In the second diagram the peace sign method works to predict another successful position shot while it also illustrates a very useful reference for many pool shots. In this case the middle finger indicates the line that the cue ball takes to the object ball while the index finger indicates the cue ball's path to the short rail. Note that the index finger on this shot makes a line that is exactly perpendicular to the short rail. When playing it's very important, for two primary reasons, to recognize shots where a rolling cue ball with no english will leave the first cushion on a line that's perpendicular to that cushion. For shots like the one diagrammed, where the cue ball is going up and down the length of the table, a perpendicular path allows us to predict the position outcome very accurately. In this case it also indicates that we will avoid the obstructing solid balls for position on the next stripe. Further, it's important to note that a cue ball with no english moving perpendicular to a cushion cannot scratch, whether it's moving up and down or across the table.

After playing enough pool we subconsciously learn cue-ball tracks. All experienced players can make accurate predictions for the cue ball's path on most shots. A player cannot hope to compete without that skill. I know that after my three-year, 12-hour-a-day pool education, I had honed that skill despite that I never knew about 30 degrees. I often wonder how much better my game would be if Dr. Dave had come along at the outset of that education to teach me about the peace sign. I would have learned it in one afternoon and gained a fast understanding of cue ball tracks, which would have allowed me to move on to more advanced learning sooner. Plus I was a little hippie as a youngster and would have eaten up an opportunity to walk around a pool table wishing the balls peace.

The Video Encyclopedia of Pool Shots illustrates the 30-Degree Rule in great detail with a couple dozen examples that show how to recognize and apply it.



