

## The Pool Mind

After almost five years of using this page to discuss the mental game and reflecting now on columns addressing such topics as intimidation or pressure, I realize that I tend to deal more with our emotional relationship to pool than the workings of the human brain. Some occasional useful information I hope, but after last month's installment, based on a *Scientific American* story probing the expert mind, I know now that I never explore the real, nuts and bolts of our mental machinery. And it makes me wonder if maybe I'm pool's answer to Ann Coulter, the so-called writer who was famously hired in 2004 to cover the Democratic National Convention for *USA Today*, and then, instead of political commentary, submitted a litany of insults aimed at the women in attendance and their appearance. The paper rightly turned down the piece and then fired her. Not only was it inappropriate but it was plain wrong as anyone watching could see. Naturally, someone who writes with a stupidity that's rivaled only by her shallowness is incapable of appreciating an ethnically diverse group of educated women speaking with compassion and eloquence. Of course the one-dimensional Coulter feels more comfortable amid the banal homogeneity of GOP style and sensibility, in a world where all those narrow minds leave so much space in their wide cars for the endless spew of her platitudes.

Wow, I don't know how I began a discussion about the human brain and wound up on Ann Coulter, but it's a little like opening a conversation on height and then talking about Mickey Rooney. In any event, after reading the August *Scientific American* story that explores the chess master's brain, I can't stop thinking about us pool players and all of the breakthroughs awaiting the first scientist to design a set of experiments that probe the billiard mind.

During a recent lesson with one of my advanced students, the two of us began talking about the matter of shooting with english and the variables we must manage in order to pocket a ball. Logically, we talked first about deflection and how we must compensate for it whenever we choose to hit the cue ball with left or right-hand english. Basically, when we use right-hand english, we must allow for the fact that the tip will push the cue ball out to the left, and so we aim at a spot to the right of the one we would choose if shooting with no english. That oversimplified explanation adequately summarizes the compensation-for-english question on most shots. Now, let's examine the subject a little further to see if we can uncover everything that we must consider when shooting with english.

Even a cursory investigation reveals that english introduces a pretty extensive list of variables that confront us whenever we elect to move the tip off center. First, as mentioned, comes deflection and a cue ball that is immediately pushed off to the opposite side. And, as all the ads make sure to tell us, some sticks deflect the cue ball more than others. Success on shots with a short distance between the cue ball and object ball depend almost entirely on the shooter's ability to allow for the precise amount deflection from his or her own cue. As the distance increases however, we begin to observe the phenomenon

of curve, which moves the cue ball back in the direction of the english used—right-hand english will make the cue ball curve to the right. But for a full understanding of curve we must also consider speed. The cue ball will not curve on a long shot hit hard where the shooter must lend more consideration to the deflection problem. However, when we spin the cue ball for a long shot with moderate or slow speed, chances are that the curve will move the cue ball more than the initial deflection, meaning that on a long, slow shot with right-hand english, we need to aim to the left of the no-spin aim point to allow for a cue ball that is curving to the right. And so to pocket that ball we allow for the initial deflection and aim right, but then we remember the slow speed and curve, and aim somewhere farther left to account for those variables. There must be shots where speed and distance match up in such a way that deflection and curve offset each other and allow us to aim for the same spot we would shoot at with no english. Remember that, for a given speed we must allow for deflection at a short distance and then curve over a longer distance.

If your head is now spinning like the cue ball in question, welcome to the club. And the discussion is only beginning. Along with deflection, curve and speed, we must weigh how much english we're using. The farther away from center that the tip strays, the more it will deflect *and* curve the cue ball. Then we must allow for the precise stroke we will apply to the shot; a snappy punch stroke will deflect the cue ball more than a languid follow stroke. From there we can discuss elevation, which usually adds more curve (think of a massé shot) than deflection. Now, think of the two balls making contact and the throw that a spinning cue ball imparts to an object ball. Then we must consider the cloth and its friction. Does a cue ball curve more or less on new, slick cloth? I say it depends, maybe both. Do shiny, new balls behave differently from dirty, old ones? I think so but I can't describe the precise adjustments I make from one to the other. The underlying question at the end of this snarl is, how do our brains manage to process all of the variables and adjustments needed to make everything come together again and again for each distinct shot? I don't know the answer, but at some point in our progress, we move beyond the exhaustive reasoning to solve the problem instinctively and spontaneously.

I not only lack the answers but I superstitiously fear that asking the questions can cause disaster by crippling my shooting with unnecessary thinking. And, at the risk of making matters worse, we're only talking about one small element of the game. There are many more facets just as complex. Right now I don't think anyone knows what really goes on in our minds but we should. Just as all of the scientific attention given to chess has helped players improve dramatically over the past century, I'm confident that similar studies of pool players would lead to a sharper understanding of our unique thinking and therefore greater improvement. In the same way that Bob Jewett and Dave Alciatore help us by explaining what happens on the table, some neuroscientists need to design a thorough set of experiments with a wide range of pool players to determine precisely what's happening inside our heads. And if they're ready but waiting for volunteers, I'll be the first one to don a hatful of wires.