

## Memory

In the August *Billiards Digest*, George Fels recounts a match that he and I played almost 30 years ago where, after he left me in the two hole with a 45 and out, I allegedly stomped off without shaking his hand. I was an occasional hothead as a kid and certainly did not win every match I played, so I don't necessarily doubt his story. I simply cannot remember it. The match I do remember with him took place at the same room, Marie's Golden Cue, in a handicapped, straight-pool tournament, and I won. The reason I remember that match so well is that George's masterpiece, *Mastering Pool*, had just come out and jumped immediately to the top of my favorites list. That likely places the match some time in 1977 and our handicaps around 85 for him and 60 or 65 for me. I also remember beating him straight up in that short game, making the handicap irrelevant. So, he remembers beating me and I remember beating him, but neither one of us remembers losing. I'm confident that my memory is accurate because of his fame and my respect for him. If I wanted to refute his story I might assert that I was just some unknown kid and one who could easily be confused with any of several young players from Marie's back then. I suspect that we're probably both correct, and if a brain has to jettison some match memories, they may as well be losses.

Coincidentally, while BD was running a story from the basement of George's memory, *Scientific American* featured a story in its August issue exploring the expert mind and the important role memory plays in its development. In that story, Phillip E. Ross examines a number of experiments conducted with chess players and the mental processes at work among grandmasters. As one might expect, a major key to the grandmaster's advantage over weaker players lies in an ability to assess the pieces and quickly identify patterns in their arrangements. Perhaps we can apply this study of chess masters and pattern recognition to sharpen our understanding of pool and its best minds.

When I talk about pool and the qualities that make it so great, I often mention chess and the way that the two games require players to create designs for the future. Accomplished players in both pursuits need the ability to look out and visualize moves well ahead of the present, ideally all the way to the end of the game. A seasoned 8-Ball player will not begin shooting until the entire rack is planned out, shot for shot. Similarly, the chess master looks at the board and begins a play that may not unfold completely until 10 or 20 moves hence. Pool and chess also share a measure of control over the opponent not found in a lot of other games. In the same way that a pool player can handcuff an opponent with safeties, the chess master can virtually smother a foe with forced submission to the plan. Pool's best example of comparable brutality is One Pocket where top players can bury their opponents in fiendish traps and render them impotent.

Whether offensive or defensive, effective play in both games depends largely on memory and a player's ability to determine the best move or series of moves from the current arrangement of pieces or balls. Because the number of possible arrangements in either game is too dauntingly vast for any memory, the most interesting and relevant section of Ross's piece discusses the theory for a chess master's ability to identify and

remember arrangements of pieces scattered around the board. In an experiment that required test subjects to analyze chess positions for 10 seconds or less and then reconstruct those positions from memory, masters and grandmasters significantly outperformed lower-rated tournament players, with consistent ability to recreate positions containing as many as 20 pieces. Clearly this relates to a pool player's ability to open a fresh rack, assess the arrangement of balls and then run out from there. The expert chess player is thought to use a type of memory called chunking, where the position of one or two elements suggests the entire arrangement, and then the best way to proceed. In a similar fashion, distinct elements in a layout of balls serve to suggest a familiar, overall picture and the most effective first step. Curiously, the grandmasters only outperformed novices significantly in the experiment when the positions were taken from actual tournament games. In trials where the pieces were strewn randomly around the board to create positions that would not occur in real chess, the grandmasters only performed slightly better than B-level players at reconstructing those positions. According to Ross, "Chess memory was thus shown to be even more specific than it had seemed, being tuned not merely to the game itself but to typical chess positions."

The word "typical" may define the precise point at which the two games branch off and move away from each other. While chess players rely on structured, repeatable patterns arranged over the board's 64 squares, the pool player begins each rack with a random scattering of balls across the table's surface and then faces a unique puzzle to solve. It seems then that pool is more abstract and must therefore demand different types of thinking and pattern recognition. When top pool players consistently convert layouts that stymie the rest of us, their success springs more from their ability to solve difficult problems than their skill to pocket difficult shots. Another major difference is the absence of any physical element in chess. And while the physical aspect of pool is not particularly strenuous or complicated, the action is challenging enough to elicit occasional misfires from the world's best players. The pool player must manage complex analytical thinking to make the best decisions and then move the process into the creative mind for the moment of non-thinking execution. Chess players, on the other hand, can settle comfortably into their analytical minds for the game's duration. And within pool itself we find prominent differences from one game to the next. Contrast 9-Ball, where the balls' numbers dictate shot sequence, to 8-Ball where the player must design the best pattern for every unique layout that arises. For spectators, the IPT's greatest benefit comes from the glimpse we get into the world's sharpest pool minds and what we can learn by observing the sequences they create.

Because of obvious parallels between the two games, *Scientific American's* look into the minds of chess masters may help us understand the mental side of our game a little better. But I find the games' differences more provocative and wonder what we would learn if scientists designed similar studies to probe the billiard mind and unravel the mysteries of our memories. Surely, memory must serve a higher purpose than settling old disputes between second-tier players over who won.

