

YOU PLAY YOUR WAY...

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I happened to sit in interviews with two different big-prize winners in the past few weeks. In the first one, I was just there to observe and help celebrate. The lottery always spends some time focusing the attention on the winner, and the winner is always asked to tell the story of how he or she came to win.

The stories I heard were rich in detail; I won't repeat them in full here. What struck me, and what I want to tell you, is that both stories conveyed the teller's ownership of the win. They won because of something special they did. It was easy to see and hear that this was very satisfying to them, more so than if they had won the prize by dumb luck.

While I was hearing their stories, part of my own mind was rejecting what they said. I understand how these games work, from the point of view of probability theory. Their stories reflected some fundamental misunderstandings of probability. Fortunately, my rejection runs quietly in the background and does not make me bad company.

On reflection, I developed the idea that these players' enjoyment of playing perhaps depends on a misunderstanding of probability. That is, maybe they have put together ways of looking at the games that make them more fun and entertaining for them, than they would be for me.

As I continued down this path, I realized that the players had not 'put together' special ways of looking at lottery games. Rather, they play lottery games in ways that are consistent with their bigger view of the world.

Far from wanting to convert any player to my point of view, I want to appreciate how they look at things. I do believe though that it is important for people inside the lottery to understand how things actually work. Otherwise, we might say or write things that can be shown to be not true. For this reason as I examine the stories the players were telling, I will point out what the professional perspective shows.

The first winner was a sixty year old man who worked as a machinist, making high-precision parts for the aircraft industry. When he told his story, it went something like this:

"I have been playing these same numbers every week for as long as I have worked at my job. It will be twenty years next month! Every week on Friday I buy my ticket, and I wait to check it on Sunday. When I started, you just had the one draw per week, on Saturday. I didn't particularly like it when you added the extra draw days, but I would always buy ahead on Friday so I would be covered.

"If you're going to play, you'd better play consistent. I knew if I played consistent and always stuck to the same numbers, they would eventually come in. Some of these people, they come in just when the jackpot is high, and they buy a bunch of quick-picks. That's OK, their money just goes to build the jackpot. And now I got some of it! That's fine. It just goes to show that if you're steady and you know what you're doing and keep at it, you can succeed. That's always done for me at work, and it works with the Lotto too."

This player has an attitude toward work that may have been innate to him, or may have developed as he progressed in work where precision is a key value. Precision comes from doing the same thing every time. Success comes from always showing up and doing what works; from being reliable. His way of playing Lotto is an expression of these core values!

Now, even while I was respecting his core values, part of my mind was busy refuting their application to Lotto. From a probability perspective, the fact that each Lotto drawing is independent refutes the idea that it is advantageous to always play the same numbers.

In the lottery business, we strive to build and administer independent events. Look at our drawing processes, for instance. In the classic Lotto game, we draw six numbers from a field of 49. We do this over and over, and we take care that what happened last time cannot influence what happens the next time. This is the essence of independence. Another aspect of independence that may be so obvious as to go unstated is that what any player picks does not influence what the lottery draws.

Applying these two aspects of independence, it is clear that this player's favorite pick was just as likely to win the first time he used it as it was twenty years later when he won. Not once in all these instances did his pick influence the Lottery's draw. Further, the fact that he won does not make it any less likely that he will win again the next time he plays his favorite pick, or any other particular pick. What happened last time has no influence on what will happen next time. This insight is important to us professionally because it allows us to confidently say that "you are just as likely to win on a quick-pick as on numbers you choose yourself." The player increased his chances of winning by playing a lot, not by choosing his numbers consistently.

How much more satisfying it must be for that player, though, to understand that he won because he stuck to his core value of consistency!

It would be a mistake to think that only gamblers think this way. In fact, we humans are all equipped with what has been called "associative machinery" that is keenly tuned to find cause and effect in our world. It actually takes a disciplined mental effort to reject some of the "likely stories" that our minds put together. When we consider that the result of this effort is that the world at least initially makes less, rather than more sense, it is easy to understand why few people go down that path. After all, it is easier to be comfortable in a world that makes sense.

Those who embrace the independence of events eventually take comfort in being able to make correct predictions about the long-term outcomes in things like games of chance. They are as inept as anyone else in predicting which numbers will be drawn tonight.

The second player was a forty-ish woman who came in with her boyfriend. I got called because she wanted to know how many other tickets hers had beaten, in order to win the prize. I ran a query and came out to share the news: there were 156,232 other wagers in that drawing.

"Ha!" was what she said to that.

She had won \$200,000 in that cash lotto game. Mostly she wanted to talk about what she was going to do with the money; I had the feeling it was important to her to talk about this with us lottery folk as witnesses. When our PR person asked her about how she came to win, though, she had this to say:

"I play the numbers that are due. I go to that Web site and see which ones haven't been picked as much, and I play them. And I don't play all the time. When the jackpot gets real high, you get too many people playing and there's too much competition. So I only play when there are not so many people. You have three draws every week; you can tell from the Web site that there are just not as many players on Monday. There just are never as many of the little prizes. The little prizes tell you how many people are playing. So I'll play on a Monday even when the jackpot is high; I'll only play on a Saturday if it's in the first ten draws or so. If it gets too big it doesn't last anyway."

This woman is one of the more analytical players I have

met. She studies the data we put out, and interprets them in light of how she thinks the world works.

In many jurisdictions we share a record not only of recent drawing outcomes, but also of how often each individual number has been drawn over the life of the game. If we are administering the drawings correctly, over the very long term we expect that each number will be used with similar frequency. We might look to our record of how often each number has been drawn, as a sort of test to reveal any biases in the system we are using. When we publish this information, we consider it a contribution to transparency.

However, gamblers look at this information less to verify our competence than to secure their own advantage. They look for numbers that are under-represented and thus "due." They expect that the fact that "35" has been drawn relatively few times means that it is likely to come up soon. This sort of belief has been called the "gambler's fallacy." It is basically a belief in a regulated universe, where understanding the rules enables predicting the regulator's next action.

The concept of independent events can be somewhat threatening for people who believe that events in our world are regulated by a superior authority. The idea that numbers can be "due" is compatible with divine providence, just as it is incompatible with probability theory. "Playing the numbers that are due" can be understood as an expression of trust that the universe is ultimately under control.

The second player's narrative reflects both this belief, and sense of competition is a main organizing principle. The numbers are competing to be chosen, and yet there is an underlying principle that they are all equal in some way; consequently those that have not been given enough time are "due." And of course our player is in competition with every other player for the opportunity to win.

She need not be concerned to avoid crowds. Since what any player picks has no effect on what the Lottery draws, her likelihood of winning the top prize does not change even if she is the only player in the game. What does increase with the number of players is the likelihood of having to share a top prize with another player who made the same pick. Understanding this is probably not demotivating for most players. I doubt that this player understands the unlikelihood of sharing; rather she just assumes that everyone is her competitor and the fewer of us there are, the better. I picture her as that driver who passes me on the right just to get to the looming traffic jam ahead of me. It's her world view; it's who she is; she probably acts this out in different ways all the time. Playing the lottery this way is just another expression.

In summary, I think each of these players has a coherent world view that helps to make sense of the way things happen. Their distinctive ways of looking at things would probably be revealed in other stories they might tell; I just happened to hear ones about winning the lottery. Their views are incompatible with probability theory; most intuitive understandings are. The important thing, I think, is that they can express themselves by playing the lottery in their particular way. Maybe this is why they stay engaged! ■