

The Drunkard's Walk: How Randomness Rules Our Lives

Author: Leonard Mlodinow

Publishing Year: 2008

Publisher: Penguin Books

Pages: 219 (Paperback)



The Drunkard's Walk refers to the random motion of molecules suspended in a Brownian fluid continuously bumping against each other. This incessant scramble leads to the movement of molecules that is hard to predict but can be confidently explained after the fact. Metaphorically, the drunkard's walk is a path punctuated by random impacts and unintended consequences that result in life-altering events.

There is something daunting about randomness. Most of us know what it is yet we fail to assess the pivotal role it plays in our lives. We unwittingly jump at attributing people's astonishing success to their skills and perseverance, but completely overlook the role chance plays in their triumphs. The only time we recognize the importance of randomness or serendipity in our lives is when it comes to finding our life partner. Those are the times when we covet for the chance scenarios. Barring this one exception, randomness rarely gets the credit that it deserves for happy times in our lives.

This inability to understand randomness in our daily lives has prompted many authors to explore this rather delightfully mysterious world of chance events. Leonard Mlodinow is a star physicist (Caltech, Max Plank Institute for Physics and Astrophysics), a bestselling author and a deft enabler of otherwise puzzling things. Annoyed by the inadequacy of randomness to penetrate the popular psyche, L. Mlodinow sets out on a quest to redress this knowledge gap. 'The Drunkard's Walk' is a fitting manifestation of his wide-ranging expertise as Mlodinow runs the whole gamut from the origins of probability to the point where the probability segues into statistics. He declares in the prologue, "*The goal of this book is to illustrate the role of chance in the world around us and to show how we may recognize it at work in human affairs.*"

We spend a good part of our lives tethered to a strict template of how this world operates. We find contentment in our societal beliefs and erroneous assumptions, however debilitating they may be, thus never allowing the truth that randomness is omnipresent to occur to us. Academicians and journalists deserve a major part of the blame for this dearth,

for it's their misinterpretation of success that cascades down into schools and other institutions. For them, success always stands over the foundations of skills, perseverance and grit, randomness is almost never discussed. Mlodinow aptly sums it up, " *Ability does not guarantee achievement, nor is achievement proportional to ability. And so it's important to keep in mind the other term in the equation - the role of chance*". The rise of Bill Gates is a case in point here. If Digital Research, Inc. had not rebuffed IBM's nondisclosure agreement for sourcing the former's operating system, fate might never have brought IBM to Bill Gates' doorsteps. Who knows where Gates' career graph would have gone if IBM had persisted with DRI. The fact is that randomness had rigged the game in Gates' favor. Subsequently, Gates inked the deal with IBM and my desire to avoid clichés notwithstanding, the rest is history.

Reading 'The Drunkard's Walk' is akin to visiting the Magic Kingdom with Mlodinow; he cranks up one ride after another as the reader wishes for the hoopla to never end. He expertly employs his storytelling craft to unravel the progressive influence of probability over the centuries. His anecdotal treatment of the erstwhile mathematical luminaries' efforts is both enlightening and invigorating.

Much to my inquisitiveness, Mlodinow curiously identifies Gerolamo Cardano, the 16th century mathematician and physician as the founder of probability. Cardano, it turns out, was a genius of sorts who despite his personal agonies had worked up his fascination with the games of chance into a passion. His commentary called 'The book on games of chance' was the first formal work ever published on probability. From Cardano's rudimentary feat to the more rigorous endeavors of Jacob Bernoulli, Blaise Pascal, Pierre de Fermat, Thomas Bayes and others, 'The Drunkard's Walk' encompasses centuries of efforts in the field of randomness. Each chapter acquaints the reader with a legend from the past and to his credit, the author expertly braids the historical narratives with concepts of randomness.

Mlodinow also spurs the reader with a consistent dose of randomness problems - ranging from the familiar ones such as coin-tossing to the downright counterintuitive ones such as the Monty Hall problem. I, personally, found the conditional probability problems as the most baffling of all in the book. For the uninitiated, conditional probability depicts the probability that event A will occur if or given that other events will occur. If a couple is expecting twins - and somehow, they establish that one of the twins is a 'girl', what is the probability that both are girls? This one is quite simple as the sample space comprises 4 possibilities: (boy, boy), (boy, girl), (girl, boy) and (girl, girl). We can easily rule out the first possibility (boy, boy) on the basis of given information that one of the twins is a girl. Out of the remaining three, only the (girl, girl) possibility fits in, thus, the probability of having two-girl twins is $1/3$. No sweat, huh? I also felt the same until Mlodinow killjoyed my happiness as he threw in an additional twist of information: what are the chances that both children are girls *if* one girl is named Florida? Go figure.

Author reports several cases of doctors, lawyers and other professionals falling prey to randomness. But there are sections in our society that thrive on the business of randomness. In my assessment, print media and broadcast media immensely benefit from randomness despite their recurrent failures to understand it. They hyperbolize data that shouldn't even matter. For example, if the unemployment rate deteriorates from 9.8% to 10% over a month's time, the media would like us to believe that the economy is going to the dogs. But just

The Drunkard's Walk: How Randomness Rules Our Lives

because the numbers have changed, it doesn't mean that unemployment scene on ground has really become worse. A more prudent explanation according to the author is that a change of one-fifth of a percentage point could crop up due to random error alone.

Then there is the inherent human tendency to snoop around for patterns and cause-and-effect relations even when none exist. If we are presented with a huge set of random data, there is a good chance that we may find more than a few patterns, says Mlodinow - purely by chance. Similarly, among a large group of people, it's almost inconceivable not to find at least one person who hasn't experienced a long streak of success or failures - purely by chance, yet we would intuitively attribute their success or failure to their cognitive fortitude or lack of it. Mlodinow summarizes, "*...for our particular achievements, our jobs, our friends, our finances, we all owe more to chance than many people realize.*"

I found "The Drunkard's Walk' both mentally stimulating and intellectually satisfying. It's one of those books that engage the reader by making him work with it. A few sharpened pencils and a few A4 sheets by the reader's side could come in handy. At times while reading the book, I wished that Mlodinow was available on hand to explain some of the problems as I found it difficult to wrap my head around them. Nonetheless the tantalizing nature of the problems and the elegant style of writing kept me hooked and that is the beauty of this book. Lastly, I wish to share what I believe is the most important piece of advice from the author, "*..since chance does play a role, one important factor in success is under our control: the number of chances taken, the number of opportunities seized.*"

To read this review online, please log on to http://www.bookjelly.com/book-reviews/drunkards_walk.html