tech

the evolution of luck in the internet age

HOW ALGORITHMS SHAPE THE WAY WE INTERACT ONLINE

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Much of what we consider good or bad luck is actually the result of what we do. Seeking a favourable outcome, we traditionally ask for recommendations and advice from the people who know us best. Now, by tracking what you like on Facebook, a machine learning algorithm developed at Stanford University and the University of Cambridge can determine your personality more accurately than your family, friends and even your spouse.

"It's surprising that computers can do better using just one piece of information: likes," Youyou Wu, one of the study's authors, told *New Scientist*.

Algorithms help us to retrieve meaning from the unprecedented amount of information we have instant access to today. Without them, we would be overwhelmed by noise in our search results and social media feeds.

Chris Anderson's theory of the "long tail" posits that our culture and economy are moving away from their focus on a small number of "hits" (mainstream products and markets) at the head of the demand curve and toward a massive amount of niches in the tail. Because shelf space is expensive, traditional retail economics dictate that stores only stock the likely hits. Online, however, there are virtually no restrictions on what retailers can stock, and there is less need to lump products and consumers into one homogenous mass. Most importantly, the number of available niche products outnumber the hits. Those millions of niches are the long tail.

In the past, customers walked into a Blockbuster and felt lucky when they happened upon something that was of interest; a hit that the company had banked would move enough copies to keep the lights on. The experience wasn't tailored to the individual, but to the lowest common denominator. Now, algorithms help the public follow their interests past the head of hits down the long tail, toward the less popular but more specific stuff they actually want — an out-of-print book related to their most recent deep-dive, or an obscure album that influenced a favourite musician. When exploring the very specific content that resides in the long tail, consumers find that their taste is not nearly as mainstream as first believed. Fewer gatekeepers dictating available options means that algorithms now give better access to serendipitous discovery than ever before.

What's more, Netflix proves that it is possible to design recommendation systems that add in considerations of serendipity. Netflix suffers from the same rabbit-hole problem as social media; that is, providing so much content that users can't possibly assimilate it all. Its algorithm therefore makes recommendations based on what's been previously watched and what's trending. But it doesn't want to trap the user in a filter bubble, and occasionally lobs a random curve ball to gauge their interest.

In its ongoing quest to help engineer luck in love, the dating site Match.com introduced "missed connections" this past year. The feature layers algorithm upon algorithm to show app users who they have crossed paths with in real life, and how many times. The feed is curated based on both current matching criteria and location-based services. If the user likes a missed connection they see circling within their orbit, they can click to message them.

Algorithms are trying to solve bad luck as well. Take Uhura, an onboard personal assistant algorithm that assesses risk. The premise underlying Uhura is that accidents and other events that are considered bad luck are actually the result of stress, rushing, poor planning and failure to set realistic goals. Uhura listens to what the user wants to do and creates a travel plan. If the goals are deemed infeasible, Uhura negotiates with the driver to relax some constraints such as arrival time or their choice of restaurant.

At its most basic, an algorithm is a set of instructions. When these instructions are empowered by traces of personal information left across the internet from which they can create ultra-personal interactions — say when a hot stranger from the coffee shop appears on a dating app, or when a long lost song appears on Spotify — it feels creepy. But in a world that is ever more internet-based, perhaps the notion that luck operates purely by chance is outdated. Our lucky breaks are now guided by technology that knows us nearly as well as we know ourselves.