

# FILTERWORLD

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HOW ALGORITHMS FLATTENED  
CULTURE → KYLE CHAYKA



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**Kyle Chayka**



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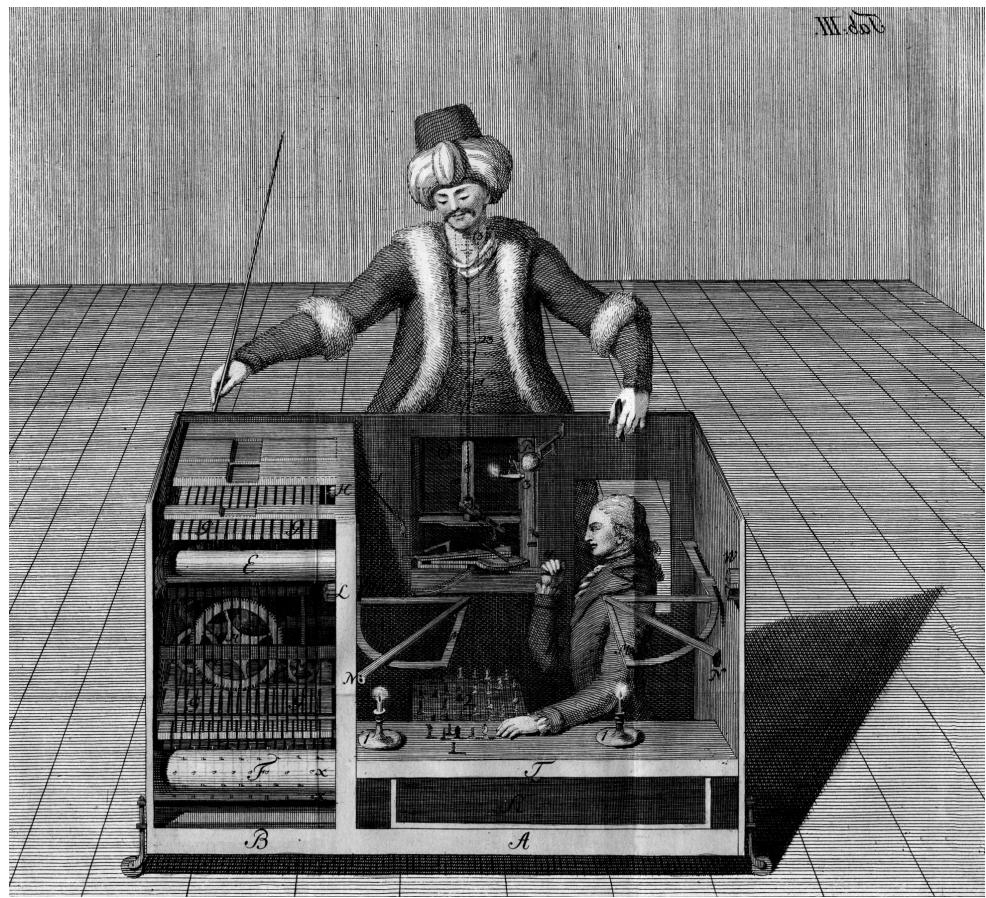
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JOSEPH RACKNITZ'S 1789 SPECULATIVE DIAGRAM OF THE MECHANICAL TURK

## INTRODUCTION

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# Welcome to Filterworld

## THE MECHANICAL TURK

In 1769, a civil servant in the Habsburg Empire named Johann Wolfgang Ritter von Kempelen built a device nicknamed “the Mechanical Turk.” It was a gift created to impress the Habsburg empress, Maria Theresa of Austria. Von Kempelen’s nigh magical machine could play and win a game of chess against a human opponent simply by means of internal clockwork gears and belts. As seen in historical etchings, the Mechanical Turk was a large wooden cabinet, about four feet wide, two and a half feet deep, and three feet tall, with doors exposing the elaborate machinery inside. On top sat a humanoid automaton the size of a child, dressed in a robe and turban and sporting a dramatic mustache, leaning over a chessboard. (The Orientalist archetype seen from the European perspective conflated the foreign-human and the foreign-machine.) The Turk’s left arm hovered over the chessboard, grasped pieces, and moved them. The machine chimed when a move was made, detected when the other player cheated, and made various facial expressions. So befuddling was von Kempelen’s Mechanical Turk that it traveled internationally, matching up with the likes of Benjamin Franklin in 1783 and Napoleon Bonaparte in 1809. Both men lost.

What the Mechanical Turk could not actually do, however, was play chess. There was no artificial intelligence driving the machine, no set of gears

that mechanically determined its next move. Instead, a short-statured human pilot curled himself inside the cabinet. He was a chess expert who could observe the game by means of magnet-connected markers underneath the board that corresponded to the pieces on top—marking the locations of the pawns, the knights, the king as the game was played. The pilot maneuvered the automaton’s hand by means of levers and strings to grab the pieces and move them, moving the magnets in turn. Smoke from a candle lamp, which the pilot used for illumination to work the machine, leaked out of hidden holes in the back. All the internal clockwork was just for show; it didn’t do anything. If the audience wanted to peek inside, the pilot could slide back and forth on a mobile seat to hide as the cabinet’s doors were opened in a faked demonstration of transparency, something like a false bottom in a magic-show prop.

The Mechanical Turk offered the impressive illusion of a machine that could make decisions for itself, that seemed to be smarter than a human, though a human ultimately controlled it. Some viewers suspected that it was fake. “To call it an automaton is an imposition, and merits a public detection,” wrote the skeptical British eccentric Philip Thicknesse in a 1784 book, arguing that the machine was controlled “by invisible confederates.” Thicknesse continued, “The Automaton Chess-Player is a man within a man; for whatever his outward form be composed of, he bears a living soul within.” Thicknesse was correct, of course, but the secret was not fully revealed until 1860, at which point the machine had toured the United States and landed in the collection of Edgar Allan Poe’s personal physician, John Kearsley Mitchell. The original artifact was destroyed in a fire, and Mitchell’s son wrote a tell-all for the *Chess Monthly*. That the machine was a blatant illusion only increased the Mechanical Turk’s significance, however.

Over the two centuries since its invention, the device has become a prevalent metaphor for technological manipulation. It represents the human lurking behind the facade of seemingly advanced technology as well as the ability of such devices to deceive us about the way they work. (In 2005, Amazon named its service for accomplishing digital tasks, like tagging photos or cleaning data, using an invisible marketplace of outsourced human labor

“Mechanical Turk.”) The Mechanical Turk is like *The Wizard of Oz*’s man behind the curtain—an all-knowing, uncanny entity that is ultimately revealed as something much more mundane and comprehensible. The machine and the trick reinforce each other. With its doubled deceptions, the Turk is able, as Walter Benjamin wrote reflecting on the device in a 1940 essay, to “win all the time.”

I think about the Mechanical Turk quite often lately because it reminds me of the technological specter haunting our own era of the early twenty-first century. That specter goes by the name of “the algorithm.” *Algorithm* is usually shorthand for “algorithmic recommendations,” the digital mechanisms that absorb piles of user data, push it through a set of equations, and spit out a result deemed most relevant to preset goals. Algorithms dictate the websites we find in Google Search results; the stories we see on our Facebook feeds; the songs that Spotify plays in never-ending streams; the people we see as potential matches on dating apps; the movies recommended by the Netflix home page; the personalized feed of videos presented by TikTok; the order of posts on Twitter and Instagram; the folders our emails are automatically sorted into; and the ads that follow us around the Internet. Algorithmic recommendations shape the vast majority of our experiences in digital spaces by considering our previous actions and selecting the pieces of content that will most suit our patterns of behavior. They are supposed to interpret and then show us what we want to see.

Today, we are constantly contending with algorithms of all kinds, each one attempting to guess what we are thinking of, seeking, and desiring before we may even be aware of the answers. When I write an email, my Gmail app predicts which words and phrases I am trying to type and fills them in for me, as if reading my mind. Spotify stocks its screen with the musicians and albums it predicts that I am likely to listen to, which I often end up selecting simply out of habit. When I unlock my phone, photos from the past I may want to see—labeled “memories,” as if they existed in my subconscious—are preloaded, as are suggestions for apps I may want to open and friends I may want to text. Instagram offers a mood board of what its algorithm perceives as my interests: top-down photos of food, architecture snapshots, looping clips

of prestige television shows. TikTok serves me an inexplicable avalanche of videos of people retiling their showers, and I inexplicably keep watching them, compelled in spite of myself. Surely there is more to my identity as a consumer of culture?

All of these small decisions used to be made one at a time by humans: A newspaper editor decided which stories to put on the front page, and a magazine photo editor selected photographs to publish; a film programmer picked out which films to play in a theater's season; an independent radio station DJ assembled playlists of songs that fit their own mood and the particular vibe of a day or a place. While these decisions were of course subject to various social and economic forces, the person in charge of them ensured a basic level of quality, or even safety, that can be missing from the Internet's accelerated feeds.

Algorithmic recommendations are the latest iteration of the Mechanical Turk: a series of human decisions that have been dressed up and automated as technological ones, at an inhuman scale and speed. Designed and maintained by the engineers of monopolistic tech companies, and running on data that we users continuously provide by logging in each day, the technology is both constructed by us and dominates us, manipulating our perceptions and attention. The algorithm *always* wins.

## DISCOVERING FILTERWORLD

*Filterworld*, the title of this book, is my word for the vast, interlocking, and yet diffuse network of algorithms that influence our lives today, which has had a particularly dramatic impact on culture and the ways it is distributed and consumed. Though Filterworld has also changed politics, education, and interpersonal relationships, among many other facets of society, my focus is on culture. Whether visual art, music, film, literature, or choreography, algorithmic recommendations and the feeds that they populate mediate our relationship to culture, guiding our attention toward the things that fit best within the structures of digital platforms. The automated recommendations are filters that both sift what gets attention from what is ignored and subtly

warp the appearance of these things, like a photo filter on Instagram, exaggerating some qualities and downplaying others. The cultural successes of Filterworld are obvious. They include phenomena like the countrified TikTok dance that propelled Lil Nas X’s 2018 song “Old Town Road” to global fame; the cliché design trends that plague Instagram, like minimalist interiors and the monotonous sans serif logos that fashion brands have adopted in recent years; and the rage-triggering deluge of meaningless Twitter controversies.

Algorithmic recommendations dictate genres of culture by rewarding particular tropes with promotion in feeds, based on what immediately attracts the most attention. In 2018, the writer Liz Pelly identified “streambait” as one such genre: the “muted, mid-tempo, melancholy pop” characteristic of Spotify. In 2019, the writer Jia Tolentino similarly identified “Instagram face,” the “distinctly white but ambiguously ethnic” mix of features made popular on the platform and enabled by plastic surgery: “It has catlike eyes and long, cartoonish lashes; it has a small, neat nose and full, lush lips.” “TikTok voice” emerged as a term for the rushed, monotone drawl of so many influencer voice-overs in TikTok videos. Each platform develops its own stylistic archetype, which is informed not just by aesthetic preferences but by biases of race, gender, and politics as well as by the fundamental business model of the corporation that owns it.

The culture that thrives in Filterworld tends to be accessible, replicable, participatory, and ambient. It can be shared across wide audiences and retain its meaning across different groups, who tweak it slightly to their own ends. (In Filterworld, everything must be a meme, like a remixable joke or image optimized to travel across the Internet.) It is also pleasant or average enough that it can be ignored and unobtrusively fade into the background, oftentimes going unnoticed until you look for it. After you notice it, however, you tend to see it everywhere, as in the sudden popularity in winter 2018 of a single “Amazon coat,” a lumpy puffer jacket that was recommended to Amazon Prime members on its online marketplace, yet another algorithmic space. In the following years, that original Orolay jacket inspired the manufacturing of dozens of replicas and look-alikes, including one by Amazon itself.

Filterworld culture is ultimately homogenous, marked by a pervasive sense of sameness even when its artifacts aren't literally the same. It perpetuates itself to the point of boredom.

I began to observe the effects of Filterworld in coffee shops around 2015. Whenever I traveled to different cities for my work as a freelance journalist over the 2010s—Kyoto, Berlin, Beijing, Reykjavík, Los Angeles—I always found a café that looked like so many others I had seen across the world, giving me a precipitous case of *déjà vu*. The Generic Coffee Shop, as I came to think of it, had white subway tiles lining the walls, broad industrial tables made of reclaimed wood, mid-century modern chairs with spindly legs, and hanging pendant lamps fitted with Edison bulbs. (An “Instagrammy” aesthetic.) And no matter the city, no matter the time of day, the café was reliably filled with a group of people similar to me: freelancers tapping at their laptops, often surfing social media. Why did the interiors look and function the same across such geographical distances? The strict sameness surpassed the usual indicators of globalization. I wanted to find its root cause.

A well-traveled millennial business consultant from Berlin named Igor Schwarzmann, who also noticed the Generic Coffee Shops, described the phenomenon to me as an international “harmonization of tastes.” Through algorithmic digital platforms like Instagram, Yelp, and Foursquare, more people around the world are learning to enjoy and seek out similar products and experiences in their physical lives. Through their feeds, they are consuming similar kinds of digital content, no matter where they live, and so their preferences are shaped in that image. Algorithms are manipulative; the apps guide them through physical space to places that have adopted digitally popular aesthetics, winning attention and ratings from other users. With higher ratings come yet more algorithmic promotion and thus more visitors. Yet as international as these effects are, the platforms that undergird them are Western, largely based in the tiny American locus of Silicon Valley and controlled by a handful of unfathomably wealthy white men—the opposite of diversity.

As the Indian literary theorist Gayatri Spivak wrote in 2012, “Globalization takes place only in capital and data. Everything else is damage

control.” In the Filterworld era, digital platforms like Facebook, Instagram, and TikTok have accumulated and spread their data, in the form of user activity, and their capital, in the form of server farms and algorithmic technology, around the world, capturing billions of users. The homogenous culture is the inevitable reaction to the damage of that spread, a way of coping with or adapting to it. For a long time, I assumed the Generic Coffee Shop aesthetic would fade, that it might just be an ephemeral trend. But it has only become more entrenched. As digital platforms have expanded, the homogeneity they cause has spread, too.

Filterworld and its slick sameness can induce a breathtaking, near-debilitating sense of anxiety. The sameness feels inescapable, alienating even as it is marketed as desirable. “Surveillance capitalism,” as the scholar Shoshana Zuboff has labeled it, is how tech companies monetize the constant absorption of our personal data, an intensification of the attention economy. And yet for all that data, algorithmic feeds oftentimes misunderstand us, connecting us to the wrong people or recommending the wrong kinds of content, encouraging habits that we don’t want. The network of algorithms makes so many decisions for us, and yet we have little way of talking back to it or changing how it works. This imbalance induces a state of passivity: We consume what the feeds recommend to us without engaging too deeply with the material. We also adapt the way we present ourselves online to its incentives. We write tweets, post on Facebook, and take Instagram photos in forms we know will grab attention and attract likes or clicks, which drive revenue for the tech companies. Scientific studies have shown that those likes trigger rushes of dopamine in our brains, meaning that chasing them, and complying with the feed, is addictive.

On the other side of our algorithmic anxiety is a state of numbness. The dopamine rushes become inadequate, and the noise and speed of the feeds overwhelming. Our natural reaction is to seek out culture that embraces nothingness, that blankets and soothes rather than challenges or surprises, as powerful artwork is meant to do. Our capacity to be moved, or even to be interested and curious, is depleted.

## THE FLATTENING OF CULTURE

In order to understand how Filterworld shapes our experiences, we have to understand how it came to be. The dominance of algorithmic feeds is a relatively recent phenomenon. In the early days of social networks like Twitter, Facebook, Instagram, and Tumblr, the sites' content feeds were more or less chronological. You chose who to friend or follow, and their posts showed up in the order they were published. As the platforms grew to millions and billions of users over the 2010s, and users connected with more people at once, fully chronological feeds became cumbersome and weren't always interesting. You might miss a popular or compelling post just because you weren't scrolling at the right time. So feeds were gradually filled with a higher percentage of recommended posts, out of chronological order. These algorithmically determined posts might even be from accounts you don't follow or subjects you don't care about, interpolated into the feed just so there is something there when you open the app.

The motivation for that switch was less usability than profit. The more time users spend on an app, the more data they produce, the more easily they can be tracked, and the more efficiently their attention can be sold to advertisers. Feeds have become increasingly algorithmic over time, particularly in the watershed moment of the mid-2010s.

TikTok, which launched in the United States in 2018, achieved its major innovation by making its main “For You” feed almost entirely algorithmic. The app experience was less about who the users chose to follow than which content the recommendation algorithm selected for them (hence my bombardment with shower-tiling videos). TikTok quickly became the fastest-growing social network ever, reaching more than 1.5 billion users in less than five years, and its competitors, struggling to catch up, have followed suit into algorithmification. Instagram added a recommendations-driven “Reels” video feed in 2020, and Twitter, following its takeover by Elon Musk, introduced a “For You” column of recommended tweets in 2022. At least for the major corporations that comprise most of the Internet, the algorithmic tide shows no sign of reversing.

In place of the human gatekeepers and curators of culture, the editors and DJs, we now have a set of algorithmic gatekeepers. While this shift has lowered many cultural barriers to entry, since anyone can make their work public online, it has also resulted in a kind of tyranny of real-time data. Attention becomes the only metric by which culture is judged, and what gets attention is dictated by equations developed by Silicon Valley engineers. The outcome of such algorithmic gatekeeping is the pervasive flattening that has been happening across culture. By *flatness* I mean homogenization but also a reduction into simplicity: the least ambiguous, least disruptive, and perhaps least meaningful pieces of culture are promoted the most. Flatness is the lowest common denominator, an averageness that has never been the marker of humanity's proudest cultural creations.

I came across a metaphor for Filterworld in *Somehow, Crystal*, a 1980 Japanese novel by Yasuo Tanaka. The novel is more a list of fashion labels, product brands, restaurants, and boutiques than it is a dramatic narrative. It captures in perfect detail the consumerist environment surrounding a young woman named Yuri in Tokyo, recounting what she buys as well as the various devices she uses—it is the literary equivalent of an influencer's Instagram account. The novel opens with Yuri waking up and turning on the stereo next to her bed. She pushes a tuner button preset to make the radio jump to FEN, a station that plays American rock music. In a footnote, the book meditates on the technology of that button: It's “a nice feature where you can set the frequency for the station you want in advance,” but “a little bit of the maniac fun of manual tuning has been lost.”

The author observes the difference between hitting a button to instantly tune into the station and wiggling a knob back and forth, navigating through static, and eventually finding the perfect analog position. The latter might be less precise and less convenient, but it's slightly more magical and humane. There is no preset, no predetermined solution. The culture of Filterworld is the culture of presets, established patterns that get repeated again and again. The technology limits us to certain modes of consumption; you can't stray outside of the lines. “Maniac fun,” as Yuri says, is gone—that is to say, a certain degree of originality, unprecedentedness, creativity, and surprise

disappears when so much weighs on culture's ability to spread through digital feeds.

The aim of this book is not just to diagram Filterworld and discover its consequences but to deconstruct it. In doing so, we can determine ways to escape it and resolve the omnipresent atmosphere of anxiety and ennui that algorithmic feeds have produced. We can dispel their influence only by understanding them—by opening the cabinet of the Mechanical Turk to reveal the operator inside.