The seeds of this book go back at least ten years. In those days, words hitherto familiar to me only from art galleries and craftsmen’s wood shops suddenly abounded in all fields of culture and leisure. At cafés in the hip part of town, sommeliers were called wine “curators”; baristas selected and poured “artisanal” coffee from a far-flung nation, just for me. At the same time, emerging music services such as Spotify promised—for a small monthly fee or the relative inconvenience of occasional advertisement interruptions—to play an assortment of songs new to me but perfectly tailored to my taste, using cutting-edge technology and computer processing.

Of course, there has always been tech-speak and hipster language, semantic gentrification and outright snobbishness. But the marketing rhetoric seemed to want to take sides: either firmly partaking of a belief in the strength of numbers, algorithms, and computational systems to better provide cultural services—or, at the other end of the spectrum, gleefully luddite appeals to the human touch, irreverent celebrations of gatekeeping expertise, bijou or bespoke designs, and tribalist cultural distinction. These were business models and sales tales of personalization and community, discovery and satisfaction, expanded selection and immediate access. The wisdom of crowds, served to suit individual whims.

The forces of globalization and digitalization seemed to be expanding cultural choice. At the same time, the methods of how to whittle down these arrays of offerings to a manageable size—and who or what should guide that decision-making—came up for revision and debate.

The world of film and other audiovisual media—my professional domain and a significant part of my personal life—was hardly unaffected by these developments. Indeed, I noted my own behaviors changing. I had long been
invested in a methodical rhythm to my week, month, and year of audiovisual consumption. The Thursday newspaper film reviews that informed my weekend cinema trips. The monthly film magazine that told me which home videos to buy or register on my DVD-by-post queue. The annual trip to a major A-list festival; the relative disinterest in television. Even with the rise of various technologies, from VHS and DVD to Blu-ray, there remained a comfortable familiarity about where I needed to go, what I needed to consult, and whom I should trust with my consumption decisions.

These once-steady, well-worn rituals were becoming superfluous, even silly, for many, including creatures of habit like myself. Too little time to read several reviews of a film? I could check out the Rotten Tomatoes or Metacritic composite scores, which conveniently popped up in the sidebar of internet searches for individual titles. No opportunity to travel to one of the major festivals this year—or unable to see even a small fraction of the hundreds of films on offer over ten days? This was no longer a real worry, because I could subscribe to MUBI for a curated selection of the previous year’s best festival-circuit hidden gems. Suddenly wanting a thriller or to start bingeing on a new comedy series at home in my pajamas? Video-store trips or interminable waits for the postman were bygone and outmoded, because I could immediately consult Netflix and its personalized recommender system would select the best title for me. If I was unimpressed with these selections, I could access the New York Times’ Watching site: it could calculate which of my four video on demand (VOD) subscriptions were carrying which well-reviewed films or series by genre or mood. Personally, anecdotally, it felt as if a fundamental change was in motion. But I recognized myself as an exception; after all, I had made a hobby into my profession. Did my lived experience and local observations correspond to a larger and perhaps even irrevocable shift in choice behaviors?

Among many newspaper critics, academics, cinemephiles, and TV junkies, there was a widespread sense of empowerment in those halcyon days. It was a renewed feeling of mastery and control, of being listened and catered to, in the name of personalization: a treasure trove of moving images, prêt à regarder. Heavy users of media culture (and in particular the audiovisual stories we used to call cinema and television) were subscribing to Netflix, Amazon, MUBI, and other VOD services. Many harbored completist hopes of all film and television history available immediately with the click of a button. Fanboys and fangirls predicted that cult tastes would go mainstream and surmised that media executives would henceforth pay them heed.
Entrepreneurs envisioned tapping into vast new domains of value (i.e., making money) by linking niche items with niche markets. Some even thought that these new avenues of sped-up, on-demand viewing would increase viewers’ agency and activity, their participation and enjoyment, their self-reflection and democratic citizenship. Euphoric talk of “convergence” and “choice,” of “radical changes” and above all “revolution” abounded. Perhaps the most important “early narrative of digital change,” according to one industry professional, “was of a democratising trend away from ‘gatekeepers’ restricting choice,” the consumer-empowerment rhetoric of recommendation toward individual taste. Cultural suggestions would surely become more objective, no longer at the mercy of the whims of pointy-headed elites.

Netflix’s, YouTube’s, and other internet streaming services’ algorithmic recommender systems seemed to constitute the culmination of a certain internet fantasy: personalization. For many commentators, these systems—which suggest content likely to interest viewers based on their prior viewing histories—represented a fundamentally new way of connecting cultural objects and human beings. Computer scientists and business gurus swooned over the ability to scale the provision of cultural recommendation using big-data-based “collective intelligence” and “wisdom of crowds.” Feature writers for the Atlantic, New Yorker, and other middlebrow publications attested to the Netflix recommendation engine’s superhuman qualities, its “alien” recognition of taste able to perceive deep structures and networks between seemingly disparate genres and actors, connections that humans and critics could not possibly intuit.

It was not long, however, before scholars began to deflate such talk. The objections emerged from many different perspectives across a plethora of articles and books, but in general revolved around three persistent, overlapping concerns. The first interrogated the lack of transparency to algorithmic recommender systems, the ways that they surveil and invade, obfuscate and circumscribe human taste and culture itself. Critics questioned the opacity of the technology and the shady corporations that controlled it; they wondered why a certain film or series appeared as a suggestion. Are recommendations truly based on “taste” or simply pay-for-play promotions? The nontransparent, black-box quality of proprietary algorithms and the tracking methods that invisibly record viewing histories in order to suggest further videos for “people like you” reminded these thinkers of Foucault’s panopticon and Deleuze’s control society. A second major concern hinged on filter bubbles, cultural homogenization, gated communities, reputation silos,
public sphericules, and social fragmentation. Algorithmic recommender systems, observers warned, hew too closely to previous selections and biases, inevitably leading users to consume certain products, thereby “hiding” others and affecting individuals’ exposure to diversity. Leaving users in the dark about alternate choices, these devices limit expression and diversity, erode democratic access, narrow horizons of expectation, and inhibit empathy by erasing common experiences and “watercooler moments.” Algorithms work to confirm, rather than develop or challenge, consumers’ tastes, they reasoned, potentially leading to an atomized proliferation of house-bound non-communities of one. Finally, a third vocal criticism surmised that algorithmic recommendation, by virtue of its very form and technology, represents a hostile takeover of humanism, a hijacking of culture itself from the qualitative to the quantitative. Cultural recommendation—not to mention the livelihood of critics and educators since time immemorial—has traditionally been based on the presentation and evaluation of the Arnoldian “best which has been thought and said.” In the face of algorithms, however, it risked being reduced to slack-jawed perma-bingers passively acquiescing to Netflix’s advice that the next episode will begin in 5, 4, 3, 2, 1. These commentators entertained scenarios of a “datafication of identity” and a “mathematization of taste,” indeed a wholesale redefinition of culture. SVOD (subscription video on demand) viewership—after all the fastest-growing mode of film and series consumption—risked substituting the Pauline Kaels and Manny Farbers of the world for AI machine learners, avatars for the economic imperatives of profit-seeking media conglomerates. Across all three main planks the initial celebrations of grassroots democracy—declarations of the definitive end of gatekeepers and the overturning of cultural hierarchies—were met with equally certain complaints about dumbing down and humanity losing its monopoly on determining cultural value.

In sum, reviewing the discourse surrounding recommender systems and related developments over the past ten, fifteen, twenty years reveals two competing, and largely mutually exclusive, narratives. One heralds an unprecedented era of democratic access and choice. The other proposes a scenario straight out of Clockwork Orange (1971): media shoveled into our eyes, a color-by-numbers operation masked by clever marketing illusions. The fronts in this debate could hardly be clearer or more diametrically opposed. Curiously, however, both the vociferous champions and the vehement critics share a common first-principle assumption: that VOD recommender systems are effective, powerful, widely used, and unprecedented.
In crucial ways, these hopes, dreams, anxieties, and nightmares remain at least as interesting as the forms and functionality of the technology itself. Algorithmic big-data processing and the internet have reinvigorated deep-seated desires about how society should be organized, and who should lead or control its opinion-leading communications apparatus. The wildly and alternately utopian and dystopian diagnoses can be explained and perhaps even justified by prime-mover and growing-pain timings, by the fact that, as Vincent Mosco and others detail, new media have over the course of history always attracted hyperbolic dream-or-nightmare talk. But a quarter century after the widespread consumer embrace of the internet and the advent of Netflix and its recommender system, we no longer have the luxury of general forecasts. The initial Wild West phase of digital film and series distribution is over; the online consumption of audiovisual narratives is no longer a novelty enjoyed by elite early adopters. Having reached a “mature stage” of VOD development, largely dominated by an oligopoly of providers with culturally minded platforms operating at the fringes, it is high time to take stock of the promises and warnings about recommender systems and provide a more nuanced assessment. In particular, this book squarely scrutinizes what is perhaps the most pressing of the myriad claims made about VOD recommendation engines: AI’s supposed hostile takeover of cultural suggestion and indeed humanistic culture itself, algorithmic systems’ putatively unprecedented re-mastery of taste.

In explaining digital audiovisual culture and its systems of presenting and recommending films and series, the discussion in this book revolves around VOD platforms, including and especially the world market leader, Netflix. Most who have written on this subject—and there are many, from business columnists and tech prophets to film critics and media scholars—see Netflix and competitors above all as the new digital distribution. A central conceit of this book, however, is to consider VOD services not only as distributors, exhibitors, or producers of moving images. Rather, we need to consider them as symptoms and enablers of cultural evaluation and taste, and within ensembles of recommendation forms, heuristics, and repertoires. VOD may be important for its internet streaming technologies, instant access and narrowcasting, and the content that has sprung from its creators and commissioners, from House of Cards (2013–2018) to The Handmaid’s Tale (2017–present). But, I submit, it may be even more important for the routines of recommendation, presentation, gatekeeping, and ultimately taste that such technologies enable and incentivize. Yes, the question of what we
are watching these days, and by what means, is an important issue. And yet the question of how we come to watch what we watch is equally crucial, and deserving of more serious, careful, and systematic scrutiny.

Indeed, we might begin to question to what extent these services have come to usurp basic functions of criticism and displace traditional media consumption routines. It is clear that algorithmic recommender systems have become an increasingly prevalent and thus important means to learn about, choose, and consume moving images. But do they also represent, as commentators posit, a fundamentally new form of recommendation, a system and logic that offers an irrevocably novel idea of culture and taste?

FROM THE PRODUCER TOWARD THE USER,
FROM NOVELTY TOWARD MEDIA ARCHAEOLOGY

Twenty-five years ago, people saw films and series primarily in cinemas, on terrestrial and cable television, or on their VCR. They made viewing decisions after consulting listings, ads, critics’ reviews, or word-of-mouth tips. Today, consumption appears to be radically different. An alphabet soup of technologies and business models has emerged: TVOD and EST (transactional video on demand and electronic sell-through, for example, Apple’s iTunes), PVOD (premium video on demand, for instance, day-and-date services like Curzon Home Cinema), and FVOD/AVOD (free or ad-supported video on demand, such as YouTube), not to mention a vast pirate economy. SVOD (subscription video on demand)—exemplified by streaming services such as Netflix, Amazon Prime Video, Hulu, MUBI, or the BFI Player—has become the fastest-growing means to watch films and series. Of course, these models coexist with—rather than neatly replace—a panoply of largely thriving legacy media, terrestrial and satellite networks, digital and cable, rent-mailers, DVD kiosks, cinemas, a handful of leftover video shops, as well as other niche services.

Rather than cinema schedules or TV listings, VOD services heavily depend on search and recommender systems to guide consumption among the often thousands of titles on offer. Personalized recommender systems for films and other cultural goods were whispered about at scientific conferences beginning in the 1990s. Computer scientists define recommender systems as applications that “learn users’ preferences in order to make recommendations” of cultural products. There are various recommender types. Some link
the user to other users with similar consumption histories in order to forecast new items that might suit his or her taste. Others focus on the intrinsic qualities of the content itself to lead consumers to products they would not have discovered on their own. Still others perform a combination of these two methods. And yet all variants, according to their creators’ technology- and novelty-driven accounts, require machine learning and software tools, deploying data (collected via user ratings or behaviors) and computational operations to predict and suggest appropriate consumption choices.

Today, algorithm-led recommender systems are big business and constitute the core value proposition behind VOD services such as market leaders Netflix and Amazon Prime Video. One analyst reckons the Netflix homescreen—unique to each user based on his or her viewing history—to be the most powerful promotional tool in world entertainment. Netflix proudly claims that its platform is free of “editorial content,” in other words, devoid of human-generated evaluations or suggestions. The company boasts that its recommender system influences the choice for as much as 80 percent of its streamed content and is worth $1 billion annually in retained subscriptions and reduced marketing costs. Netflix chief content officer Ted Sarandos floated the story that the system’s diagnosis of taste is so powerful that series such as House of Cards were “generated by algorithm.”

As such, Netflix’s and Amazon’s recommender systems represent the realization of the internet’s early promises of personalization: content tailored to the individual user’s needs, rather than broadcast to the wider public or identity-based demographic groups. Rather than the opinions and insights of human experts, these recommendation engines bet on the wisdom of crowds: aggregations of passively communicated taste.

Less publicized amid the hype, however, is the continued existence of legacy recommendation forms. Word of mouth, an often intimately personalized means of suggestion, is practiced by Americans on average 16 times per day, including 2.8 instances involving media and entertainment products. Box-office rundowns, top-ten lists, and best-of rankings are just a few examples that offer, in a non-personalized way, the same core feature as an algorithmic recommender system: a ranked list of items likely to interest the user. Likewise, niche VOD services, those with a cultural remit or aiming at a highbrow clientele (BFI Player, MUBI), use non-personalized recommendation styles that emphasize “human expertise” and “human curation,” discovery and diversity. Their publicity downplays—or outright eschews—algorithmic suggestion. Rather than appealing to individuals’ likes, they present films in ways that
recall traditional forms of “good taste” and shared cultural norms of quality that date back to Gotthold Ephraim Lessing and Matthew Arnold: the hallmarks of many recommendation sources throughout the existence of audio-visual entertainment. They update such top-down conventions with appeals to community, social-media-esque sharing, and a contrarian artisanal identity in the era of big tech.

This book seeks to move the discussion of VOD to recommender systems, but also shift the discussion of recommender systems: to reposition where we locate and how we contextualize these phenomena. Almost all scholarly efforts on VOD recommender systems—not to mention treatments of these mechanisms in general, whether for music platforms like Spotify or Pandora, search engines like Google, or news feeds such as Facebook’s—home in on algorithms and data collection. Although such assessments vary somewhat in terms of moral valence (some celebratory and many others scathing), virtually all foreground quantitative computational processing as an ontological characteristic, the essence of what makes a recommender system worthy of its name. Indeed, these many articles and books propose the “novelty” of data, “datafication,” the “datafied society,” or “algorithmic culture” as the underlying justification for their study. They bracket algorithmic recommender systems as unprecedented in their features and unforeseeable (and, above all, unforeseeably wonderful or dangerous) in their effects on individuals and society at large.

Such theoretical pronouncements, however, remain unsatisfactory. Largely untested and sometimes speculative in nature, they are proving to be out of step with the available empirical evidence. How might we better understand algorithmic systems by not stipulating that their “revolutionary” features blow up long-standing user norms a priori? Might we better take stock of VOD recommendation not by considering them as sui generis technological forms but, rather, for their functions and uses and as continuations and transpositions of legacy forms such as word of mouth, criticism, and advertising? Indeed, how might we better understand these developments by reminding ourselves of the insights of media archaeologists who look for continuities alongside uniqueness, for the old in the new and for the novel already in the old? These are questions that—in the hangover of new-media celebrations and lamentations—urgently require answers.

This book proposes to address these lacunae via two fundamental shifts of perception: from the assumption of novelty toward a historical genealogy, and from the prism of technological determinism toward a user-centric attention
to the instrumental functions of these services. At this stage, I argue, it is more enlightening and productive to consider VOD recommender systems as much as of a piece with Leonard Maltin’s Movie Guide and Reader’s Digest, as with Google’s search engine. What if we see Netflix’s or Amazon’s recommender systems within a subset that includes Rotten Tomatoes, Watching, MUBI’s curation-style model, and distributors’ posters—that is, on a spectral plane of promotion, suggestion, and information? These avenues of inquiry entail a detour from a synchronic fixation on the producer, on form as input, on (the myth of) big data, and on assumptions of (technological and thus functional) novelty. Instead, I submit, we must adopt a more instrumental and archaeological perspective that attends coequally to the user, to form as function, to novelty as discourse, and to diachronic pathways and overlaps.

The benefits of these shifts in approach deserve explanation. Previous assessments remain stubbornly producer-centric, lavishing attention on the engineering and business heroes or villains who create the algorithms and sell them as a service. From the perspective of the producer, it makes a significant difference whether a platform deploys an algorithmic recommender system or whether the interface arranges films and series A to Z with blurbs written by interns or professional critics: each of these decisions requires crucially distinct employees with different skill sets and labor costs, resolutely incompatible business models, and unique selling propositions (USPs). The data engineer is only interested in a recommender system that requires his or her talents and efforts to construct and maintain; otherwise it may as well not exist and will be certainly unworthy of the name. For the CEO of an online VOD platform whose economic value rests on matching content to individual users’ unique prior viewing behaviors, an algorithm-led understanding of recommender systems is similarly logical.

From the perspective of users, however—who after all are seeking to watch content that interests, moves, occupies, or otherwise engages them—the narrow computer-science definition of a recommender system (a device that processes viewing data to learn preferences and algorithms to suggest content) may miss the mark. Whether or not a user discovers suitably engaging content by seeing a poster, scanning Rotten Tomatoes, soliciting a tip from a friend or stranger, or reading a title on a VOD platform homescreen is not inconsequential. (As we shall see, people react differently when asked to assess the trustworthiness of a recommendation they receive via a poster, a trailer, a critic’s review, a best friend’s tip, or an algorithm.) But, in general, the inputs of code on Netflix or Amazon ultimately remain—just like a critic’s salary or a
poster’s ink—a matter of secondary interest. For the user, I will demonstrate, technological difference has some, but not overwhelming significance: for example, any given platform suggests a film with more or less description; with greater or fewer options for selection; with more or less need to consult Wikipedia, IMDb, a favorite critic, a friend, or further scrolling or searching. More basically, users evaluate the effectiveness and efficiency with which any given platform delivers content that they appreciate, a transaction that plays out each time they endeavor to watch a film or series. Over time, each mode of recommendation accrues a certain level of credibility and becomes subject to conscious and unconscious routines and rituals; for the consumer, the outcome and trustworthiness of recommendation, alongside the cost, are crucial. The empirical evidence presented in this book demonstrates that this semi-instrumental perspective obtains whether users scan TV listings (in print, on the screen, or via the internet), examine a film festival program, catch sight of a poster on public transportation, or view a pop-up ad: that is to say, in any and all film and series recommendation situations.

Approached from this vantage point, technology remains an important consideration, but neither determinative of any individual consumption outcome nor determinative of all consumption outcomes in aggregate. Using this framework does not represent mere contrarianism on my part. The empirical audience research on media choice presented here indicates that—pace both the new-media cheerleaders and the filter-bubble-thesis proponents—most consumers use (and prefer to use) traditional forms of information, especially word of mouth, much more often. Moreover, most people trust VOD recommendations much less than traditional information sources and suggestions. Algorithmic suggestions maintain some value to many VOD users, but they typically constitute just one small piece of a multistage, iterative process of active and passive engagement with film and series information.

In sum, this book approaches VOD recommender systems within a user-centric archaeology of cultural recommendation and media consumption choice. This is no fanciful enterprise. After all, when computer scientists were dreaming up algorithmic recommenders for films and music in the mid-1990s (themselves leisure-sector transpositions of so-called “expert systems,” which, among other functions, helped doctors diagnose patients based on symptom inputs), they explicitly referred to legacy forms. “Collaborative filtering,” the algorithmic modeling and prediction of user tastes based on similar users’ viewing histories, deliberately sought to replicate video-store-clerk
and close-friend word of mouth. Other programmers designed techniques and code with the experience of a trusted film critic in mind. Although this utility is forgotten, early algorithmic recommender systems emerged from data engineers’ “simple observation,” one computer science textbook reminds its readers, that “individuals often rely on recommendations provided by others in making routine, daily decisions” and commonly trust others’ suggestions: peers’ tips in selecting a book or a doctor, employers’ letters of reference for job applicants, or critics’ reviews in deciding what films to watch. Developers consciously sought to “mimic this behaviour,” to transpose, scale, and automate these legacy forms, by applying computational processes to “leverage recommendations produced by a community of users and deliver these recommendations to an ‘active’ user.” Indeed, according to a biographer, Jeff Bezos’s business model for Amazon depended on this remediation: in particular, of tips from experienced local shopkeepers, who knew their customers well enough to suggest to Customer X something in the vein of John Irving, and to Customer Y the next Toni Morrison. 

Despite their supposed novelty, algorithms have existed for thousands of years as tools for humans to make predictions and prognoses. Some of the component tongue-twisting operations of Netflix’s recommender system, such as Markov chains, have been a stock part of statistical modeling for well over a century.

This book reveals that the conventional wisdom is wrong. Despite the by-now mainstream assertions that (algorithmic) recommender systems are decisive in forming opinions about what to watch (or indeed the more extreme contention that they may be brainwashing large swathes of the population), the studies that I have conducted and analyzed for this book suggest that while such mechanisms are hardly inconsequential, they still play a relatively minor role when considered among the myriad ways that we come to consume audiovisual content in the digital age. We must reckon with these services in a more differentiated and informed manner.

My perspective on this subject requires a more expansive definition of recommender systems, one that remains user situated and purpose based. This is necessary to correct computer scientists’, media scholars’, and marketers’ primary focus on the specific technology of the application and the agency of the commissioning producer, developer, or programmer. I see recommender systems within an algorithmic and non-algorithmic spectrum of methods and applications to guide consumers’ selection of cultural products (and here especially films and series). Recommender systems—regardless of whether they are employed by Amazon, BFI Player, Hulu, MUBI, Netflix, or another
provider—rely on more than programmers’ algorithms to achieve their aim. They must have an interface and therefore a particular layout and design. This interface may span (and vary) across multiple devices and may include multiple media and delivery systems (e.g., emails or push notifications with suggestions of titles likely to interest users). Conceptually, recommender systems must present a choice architecture in categories, lists, rankings, and sequences. In order to be coherent they must both display and hide content, foreground and circumscribe it; they must somehow inform, describe, contextualize, compare, or otherwise represent content choices. And they must perform these functions in combination with larger demands and limitations, such as finite acquisitions budgets and geographical and temporal constraints on exhibition. Adopting this more functional and user-centric definition allows us to consider various VOD providers—even MUBI or BFI Player, which eschew algorithmic suggestion in their rhetoric and technological forms—as deploying, in effect, recommender systems. It permits us to forgo bean-counting Markov chains and hair-splitting Bayesian networks in order to arrive at first principles: that in fact all of these services seek to promote certain films or series to certain subsets of users in order to provide a manageable and compelling content choice. It remains necessary to account for those variables with nuance, rather than falling prey to a tribalism against numbers, fallacies of novelty, and other forms of disciplinary border policing and PR claptrap.

This book considers VOD recommender systems and the cultural phenomena that they seek to simulate, complement, and supersede. Although algorithmic recommender systems are now used widely across portals of audiovisual content—not to mention travel websites, financial services, and medical diagnostics—this book concentrates squarely on SVOD services such as Netflix, Amazon, or MUBI rather than AVOD (e.g., YouTube) or TVOD/EST (e.g., iTunes) platforms for a number of reasons. First and foremost, SVOD represents the fastest-growing means of viewing films and series—despite the efforts of studios to follow on the richly rewarding experience of VHS, DVD, and Blu-ray in the form of TVOD/EST digital files. Second, SVOD employs not only a unique business model, but also offers an essentially different user experience: the oft-changing variety of films available on any given day means that a sophisticated form of recommendation must be built into the overall service. In essence, TVOD/EST represents a non-physical form of DVD/Blu-ray, whereas SVOD follows on the economic structure and consumer experience of pay television. Third, TVOD’s usually