

Computing Taste: Algorithms and the Makers of Music Recommendation

Book Review

Nick Seaver

The University of Chicago Press, Chicago and London, 2022
Reviewed by Benjamin A Morgan, Monash University

Received July 31, 2023; Accepted July 31, 2023

Computing Taste is a remarkable book about people who design and build commercial music recommendation systems. Nick Seaver, a US-based anthropologist, conducted ethnographic research primarily between 2011 and 2015 with engineers in large cities in the USA. The delay between research and publication might infer that the research is outdated. On the contrary, the study provides remarkably fresh insight into the origins and operations of the automated infomediary procedures in use today by commercial music streaming platforms – a famously opaque process. If you have ever wondered how commercial digital music streaming platforms calculate which songs to suggest to listeners (or perhaps more importantly, *why* they even do this), this book provides a refreshingly different perspective than existing critical scholarship on algorithmic recommendation. This different viewpoint is largely due to the ethnographic methods and level of insider access, but when combined with Seaver's knowledge of computer science literature crossed with a variety of interdisciplinary studies from humanities and social sciences, a noteworthy analysis is the result. This is a book primarily for scholars outside of computer science and engineering seeking to understand how the people building recommendation systems think about their work, but it also contemplates why people believe that automating musical recommendation is a necessary task. The book is useful for music business researchers as well as practitioners seeking empirical insight into the practices of sociotechnical cultural intermediaries and a well-articulated review of the relevant literature. There is continuous reflection upon how different academic disciplines yield different arguments and conclusions. Seaver constantly reminds the reader of competing interpretations of musical meaning – not only in judgements of musical taste, but also how different research disciplines will approach and frame automated algorithmic recommendation fundamentally differently. The book is also a bitter-sweet example of the quality of public interest critical research on platforms, which was once possible when external research ethnographers were granted access to conduct research with the employees of a commercial cultural enterprise.

The first chapter, *Too Much Music*, examines the argument that modern humans are overwhelmed by the listening opportunities that accompany access to the large catalogues of recordings available on streaming services. Seaver argues that information overload is a recurring myth that did not begin with digital technology or the Internet. This chapter will be especially useful for instructors of popular music or media/creative industries curricula, who have been seeking a sophisticated critical approach to question the prevalent tyranny of choice argument, but remains sensitive to why this narrative is so widespread without relying on notions of passive consumers controlled by the media they consume. A primary contribution of this book is the straightforward analysis that the engineers working on these systems are motivated by a belief that automated recommendation is helping users to solve a perceived legitimate cultural problem. When critical scholars (Eric Drott and Jonathan Cohn are mentioned in particular) argue that logics of capitalism and profit are driving the generation of desire to increase digital music consumption, Seaver notes how these theories are 'not wrong', but 'they do not capture the local reasoning of the people working on these systems... If we want to understand the logic of people working in these systems, we cannot reduce their efforts at understanding the world to "bad faith" or the epiphenomena of capitalist machinery' (p.29). This empathetic approach grounded in the perspective of workers is a welcome turn towards a richer understanding of automated recommendation.

The intervention into the dominant critical frames of platforms is further articulated in the second chapter, *Captivating Algorithms*, wherein Seaver explores the oft-heard metaphor of content recommendation as a form of trapping the listener. The chapter presents ‘a vernacular theory of captivity among the developers of recommender systems, which changed what it meant for a recommender to “work”’. (p.51). It outlines the historical shift from early recommendation systems where online companies relied on user-generated ratings and collaborative filtering to estimate a user’s future ratings, towards viewing the time spent using the platform as the central metric of recommendation accuracy. While much of that surface-level history should sound familiar to readers who know about the Netflix Prize, Seaver reports on the datafication of listening and the contextual turn in recommendation from the perspective of engineers who viewed matching listeners to songs they would enjoy as a problem to be solved. It outlines the shift from how platform engineers moved from the mechanism of taste prediction to persuasive design. The chapter further explores the theoretical limitations of the behaviouralist conception of captology (including claims about its coercive efficacy). It ultimately presents the pastoral care of animals in enclosures as a dominant metaphor engineers use when conceiving of their activity (a metaphor he further unpacks critically in the final chapter). A clever writer whose appeal will extend beyond research and scholarly audiences, Seaver has a gift with words, and is both eloquent and convincing in an appeal to the reader to rethink some of the cruel implications of the trap metaphor. This chapter problematises some dominant critical concerns about automated recommendation by foregrounding that the base motivation for algorithmic surveillance and content recommendation need not be understood as strictly profit-driven; it can also be interpreted as a form of care. This chapter will be very useful to those eager to learn more technical details of the way content recommendation strategies on commercial digital platforms have changed over time, and should provide an optimistic counter to polemical works about the harm that platforms cause – without losing its critical edge. When many critical commentators seem content to equate the prevalence of the trap metaphor as further evidence that platform design is inherently malevolent, this chapter presents an alternative view.

Chapter three asks *What are Listeners Like?* Seaver surveys the roles of demographics, context and the genre preference of users – as seen by engineers. Seaver develops a concept of musical avidity to explain how engineers view audiences primarily in terms of their musical enthusiasm, cultural status and knowledge. A cultural omnivore model linking taste, consumption and identity about how avid a listener is, presents a useful frame for thinking beyond ageing concepts of musical subcultures or scene authenticities which have largely been based around genre. Avidity is further linked to the prevalent concepts of lean-back and lean-in listening. It also provides a brief section on how engineers strive to intentionally avoid certain categories such as race and gender (or other demographics) in their attempts to measure and calculate taste. It documents how older identity-based approaches to marketing music came to be seen as old-fashioned, lazy or even as racial profiling (p.77) by the engineers working on systems who are often accused of exacerbating said bias. However, it does not shy away from how such ‘postidentity’ (p.77) arguments cannot transcend how recommender systems are still influenced by social categories, and that listening activity will still reflect the social fact of race (or identity). A truly packed chapter, it also introduces the important role of contextual data in recommendation; time of day, location, what device being used, weather and others. The example of how a system might interpret the contextual explanations for a listener choosing Toxic by Britney Spears allows Seaver to point to the role of analysis and interpretation in contextualising listening, and the intriguing vision of a no-Interface recommendation system based entirely on contextual input is a fascinating glimpse into a possible future, where context could fully automate recommendation.

Chapter four, *Hearing and Counting*, pivots towards a completely different element in the increasingly complex web of automated recommendation – the recording itself. If constructing (or interpreting) user motivations and contexts for listening are important elements of computing taste, then the qualities (and meaning) of sound represent an equally important – if often overlooked – element of aesthetic judgement and recommendation. This chapter is impressive for how it explains highly technical concepts involving how machines seek to close the semantic gap, or what a computer needs to know to perform like a human listener. Fascinating examples from Seaver’s data include how systems are trained to separate Christian rock from other forms of rock, and the metaphor of tuning algorithms akin to a musical instrument. Interpretability, black boxes and neural networks are some of the technical concepts the chapter clarifies. This section of the book is reminiscent of Jonathan Sterne’s *MP3: The Meaning of a Format* in how it describes highly technical concepts in a manner to non-expert readers. If the reader’s primary question is how automated recommendation quantifies user taste by analysing listening, and then tries to match this idea to how it interprets the musicological elements of a recording (along with the context!), then Chapters three and four are the essentials here.

Chapters five (*Space Is the Place*) and six (*Parks and Recommendation*) are likely more valuable to scholars interested in locating this study in broader theoretical debates about taste and critical discourse about big data, while less interesting to the music business research audience than the previous chapters. Chapter five explores a fascinating observation that the spatial technique for mapping genre used by computer engineers resembles the two-dimensional correspondence analysis from Bourdieu's *Distinction*. The response of a computer science graduate student to being shown one of Bourdieu's maps of a social field: 'I haven't seen these before, but they make sense, and that guy is trying to intimidate people' (128) is just one example of the idiosyncratic humour on display throughout the book. Chapter Six rounds out pastoral metaphors of enclosures, gardening and park rangers with a form of literature review on the metaphors used to describe big data, re-emphasising the human (rather than natural) origins of data, reframing the interpretation of these metaphors to focus on how engineers articulate their work through these conceptual devices. I was somewhat disappointed to see no exploration of the animal worker metaphors from Richard Scarry's *What Do People Do All Day* that Seaver has used in his talks. This was perhaps too much to hope for in an academic text. The final chapter is more niche work intended for scholars concerned with the nuance of metaphors about technology.

A brief epilogue describes Seaver's interview with the elusive founder of the pseudonymous music recommendation company Whisper, where Seaver had been embedded, who reflects back on the power to shape taste the company had accumulated, as well as uncertainty over whether it was a good idea. This regretful retrospection is interesting, as it casts a relatively ominous shadow on the generally positive outlook shown by research participants throughout the book.

This exceptional study should be illuminating for both academics and more casual readers interested in engaging deeply with how automated algorithmic recommendation systems function and why engineers took certain approaches when building and maintaining (or tuning) them. Ultimately, Seaver stresses that building and maintaining automated recommendation remains a human cultural practice, even if algorithmic systems are often seen as inhuman. While scholars hungering for another anti-platform polemic might be disappointed, those who have been searching for a more empathetic investigation into how automated music recommendation works and why it was created would do well to engage with this extremely rigorous but pleasantly written monograph.

