Nick Seaver, **Computing Taste: Algorithms and the Makers of Music Recommendation**, Chicago, IL: University of Chicago Press, 2022, 216 pp., $20.00 (paperback).

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Algorithmic recommendations are often perceived as "black boxes"—opaque and uninterpretable to outsiders, including everyday users and social scientists. While many studies have investigated how ordinary people without necessary algorithmic knowledge understand these systems (e.g., Bucher, 2017; Cotter, 2019; Eslami et al., 2015), direct access to the inner workings remains restricted for most researchers. In *Computing Taste*: *Algorithms and the Makers of Music Recommendation*, Nick Seaver addresses this gap through an ethnographic study of music recommender systems, seeking to elucidate how the developers of algorithms perceive their work and roles. Through detailed analyses of archival materials and in-depth interviews with algorithm designers, Seaver exposes the paradoxical stance of these individuals, whose practices often straddle contradictory values or identities in the interlocked context of dataism and music taste.
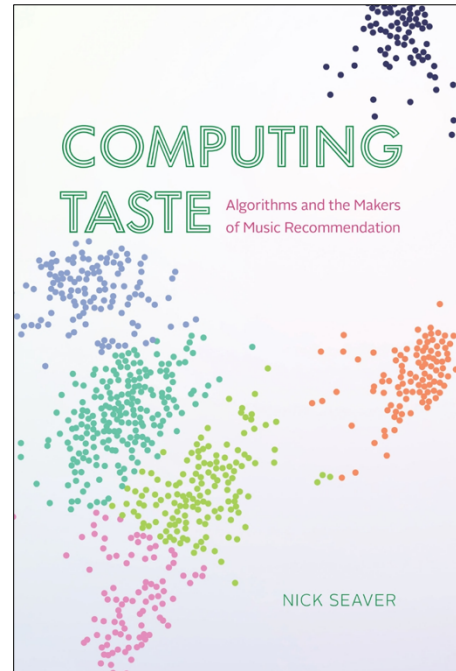
The first major paradox highlighted by Seaver is the dual purpose of music recommender systems: developers contend their care for music and users, but they also pursue the commercial imperatives of their companies. The book begins by debunking the myth of information overload in the digital environment since the mid-1990s when recommender systems burgeoned as a technical solution to this problem. Seaver argues that while information overload predates the emergence of digital technologies, this perception has fueled the developers' belief that they live in an "informatic" world where being overwhelmed by information is a constant concern. Thus, recommender system developers often emphasize their primary care for music and users, believing their algorithms help people discover better music continuously.

However, this altruistic goal might not be consistent with the commercial goal of keeping users engaged to generate data. Seaver discusses in the second chapter how these developers naturally embrace the captive culture of recommender systems, acknowledging their purpose is to get people "hooked" to the platform (p. 51). This practice is essential for tech companies to survive competition and generate profits. Seaver highlights that while developers genuinely care about improving user experience, they are also acutely aware that their algorithms are designed to maximize engagement. This creates a situation where developers must constantly navigate between enhancing user satisfaction and ensuring profitability for their companies. Beyond the classic paradigm of political economy critics, the conflicting

motivations, as argued by Seaver, reflect a broader challenge in the tech industry, where user-centric values and business objectives often collide. This paradox is emblematic of the broader complexities inherent in algorithmic systems where the intentions behind their design can be both altruistic and commercial.

The second major paradox Seaver explores is the dual reliance on quantitative data and subjective human judgment in developing music recommender systems. In this field, developers face the challenge of quantifying something as inherently subjective as musical taste. From chapters 3 to 5, Seaver details how developers translate preferences, music, and taste into algorithmic terms. Quantification is central to their approach: They operationalize user preferences based on digital traces and contextual data, leverage the mathematical properties of sound to evaluate music quantitatively, and vectorize the similarity of music into high-dimensional spaces to categorize genres according to computed clusters.

However, human judgment remains crucial. The similarity spaces generated by neural networks are conceptually meaningless without human interpretation. Developers, often music enthusiasts themselves, constantly interpret the genres and preferences computed by algorithms and determine appropriate parameters for machine learning models. This dual reliance suggests that while algorithms ostensibly embody quantitative rationality, they are also guided by human taste. The need for human interpretation underscores the complexity of creating algorithms that can truly understand and predict human preferences.

More importantly, the interplay between data-driven methodologies and the irreplaceable role of human intuition not only showcases how human values are woven into algorithmic designs but also indicates the reverse process—how algorithmic values are embedded into, and even intervene in, human decisions. As Beer (2017) argues, the power of algorithms should not just be considered as the output of codes; rather, their broader impact is circulated through the rationalities represented by the notion of algorithms. Hence, the blurred boundary between human and machine in this case indicates the diffusion of an algorithmic culture, which calls for scholarly attention in the field of critical algorithm studies.

The third major paradox centers on developers' ambivalent control over the algorithms. Through the metaphors of "gardeners" and "park rangers," Seaver argues that developers recognize their limited capacity to fully control recommender systems, as these algorithms evolve constantly with the influx of data. While developers possess insider knowledge of the technical workings, they also experience the limitations and unpredictability of these systems, much like ordinary users who are often considered outsiders to the "black boxes" of algorithms. This ambivalence reflects a deeper understanding of the dynamic and somewhat unpredictable nature of algorithmic recommendations.

Moreover, this dual identity of developers—as both insiders and outsiders—complicates their traditional image. On one hand, they are "insiders" who write code scripts to execute functions and generate outputs according to their designs. On the other hand, they are "outsiders" because the mechanisms of algorithmic models cannot be directly interpreted or fully comprehended, even by the creators themselves. This dual identity highlights the shared challenges in understanding and navigating

algorithmic recommendations, as developers must contend with the inherent unpredictability and continuous evolution of these systems.

Overall, *Computing Taste* provides valuable insight into music recommender systems. Seaver's ethnographic approach provides a unique lens through which to view how the workers inside the development process of algorithmic recommendations, offering a window into this often opaque world. By spending years gaining access to music recommender companies, attending industry conferences, taking classes in recommender system design, and conducting interviews, Seaver offers an in-depth look at the human elements behind these algorithms. This method allows readers to appreciate the complexities and nuances that purely technical analyses might overlook. The book's rich ethnographic detail and focus on the paradoxes faced by developers make it a valuable contribution to the understanding of how algorithmic systems function and impact society.

This book also leaves gaps for future research. Music recommender systems, while highlighting the tension between human subjectivity and machine objectivity, are a specific case. Further exploration is needed to understand how these findings apply to other recommendation systems. Future work could build on Seaver's findings by exploring the specificities of different types of recommender systems and their broader implications. Comparative studies across various platforms and industries could illuminate the commonalities and differences in how algorithms are developed and perceived.

Additionally, Seaver's analysis could benefit from differentiating perspectives within the developer community, as the views of CEOs may differ significantly from those of engineers and product managers. Understanding the diverse logics of these individuals will enhance our comprehension of the intricate dynamics within tech companies. Moreover, a more detailed investigation into the internal hierarchies and power dynamics within tech companies could enhance our understanding of the complex interactions between different stakeholders in the development of algorithmic systems.

Seaver's work also raises important questions about the ethical and societal implications of recommender systems. As these systems become increasingly pervasive in our daily lives, it is crucial to examine how they influence our choices and behaviors. Understanding the motivations and practices of the developers who create these systems can provide valuable insight into how we might design more ethical and user-centric algorithms in the future.

In summary, *Computing Taste* is a significant contribution to the study of algorithmic systems, offering a nuanced and comprehensive examination of the people and processes behind music recommender algorithms. By highlighting the paradoxes and complexities inherent in these systems, Seaver encourages readers to think critically about the role of technology in shaping our experiences and the ethical considerations that accompany it. Future research that builds on these insights will be essential for advancing our understanding of the ever-evolving landscape of algorithmic recommendations.

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