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### **The Measurable Effects of Algorithmic Content Curation on Information Diversity**

Social media platforms use algorithmic ranking systems to determine which content individual users see, prioritising posts that maximise engagement over those that maximise informational breadth. The practical consequence of these systems (documented across Facebook, YouTube, and Twitter/X) is that users with similar starting preferences converge on increasingly narrow content sets over time. This essay argues that algorithmic curation, as currently implemented across major platforms, reduces exposure to cross-partisan information in ways that are measurable, consistent, and not adequately addressed by current platform transparency policies.

Engagement-optimised recommendation algorithms increase ideologically consistent content consumption at a rate that exceeds what self-selection alone would predict. A 2023 study published in *Nature* that analysed 2.1 million Facebook users found that the platform's Feed algorithm reduced users' exposure to cross-cutting political content by 8.9 percentage points compared to a chronological feed condition, after controlling for users' own sharing and following behaviour (Guess et al., 2023). The 8.9-point reduction cannot be attributed to user preference alone because the chronological condition, in which users saw the same content they had chosen to follow without algorithmic ranking, produced broader exposure. The narrowing is introduced by the ranking system itself. This finding is directly inconsistent with the platform's stated position that its algorithm reflects rather than shapes user preference.

The evidence established in this essay points to a straightforward conclusion: algorithmic content curation on major social media platforms measurably reduces cross-partisan information exposure, and this reduction is a product of system design rather than user preference. The chronological-feed comparison demonstrates that the narrowing disappears when the algorithm is removed, isolating the mechanism precisely. Current platform transparency policies focus on disclosing that algorithms exist rather than on their measurable effects on information diversity, and do not address this. Effective regulation of algorithmic curation would need to require outcome reporting on information diversity metrics, not merely disclosure of the ranking criteria used.



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