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Denaturalizing Digital Platforms: Is Mass Individualization Here to Stay?

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This article examines the consistency of *mass individualization* or *personalization* techniques used by digital platforms with the imaginaries and logics of neoclassical economic theory and behavioral economics. We identify limitations of contemporary policy and regulatory responses to harms associated with datafication practices. We argue that more attention needs to be given to denaturalizing claims that enhancements of mass individualization techniques are a "natural" outcome of digital technology innovation and market dynamics. To avoid harms associated with datafication and to secure public values, it is essential to imagine a future digital world that is not dependent on massive collection of individuals' data for commercial or public ends. This might require the blocking of some applications before, rather than after, they have been deployed. Doing so will require broad agreement that mass individualization techniques are inconsistent with valuing human autonomy and effective individual choice in Western societies. Skepticism about policy intervention in the platform market is answered by examining how surprising opportunities for change may arise from contestations of current applications of these technologies.

Keywords: digital platform, innovation, personalization, mass individualization, competition policy, regulation

Mass individualization is a key goal of processes designed to enhance business relationships with customers in online and offline markets. Described in the customer relationship management context as *mass customization* or *personalization*, this is a central research theme in the marketing and management

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literatures.[2] It is this research that informs the practices of many of today's dominant digital platforms. Mass individualization strategies have blossomed as artificial intelligence–enabled customer relationship management techniques have emerged at the center of online business operations, with massive research investments designed to improve the platforms' abilities to target their advertising messages.

Critical analysis of digital innovation identifies these trends with the harms of "datafication," "surveillance capitalism," and "data colonialism" (Couldry & Mejias, 2019; van Dijck, Poell, & de Waal, 2018; Zuboff, 2019). These analyses are underpinned by the theory that the development and implementation of all technologies are political (Winner, 1986), and there are many elaborations of this perspective. Building on these works, but setting a different focus, this article considers how neoclassical economic theory and its close variant—behavioral economics—perpetuate an imaginary that reinforces and sustains claims that digital mass individualization techniques necessarily offer improved social and economic outcomes.[3] This imaginary is so pervasive that it creates a blind spot in the deliberations of policy makers who are often sympathetic to claims of harm associated with these techniques, but unwilling to consider radical change in the rules governing online business practice. Instead, much more modest efforts to mitigate the harmful effects of these techniques appear to be the only option for policy.

If harms that critical scholars associate with mass individualization techniques are to be avoided in the medium and long term, we suggest that radical change will be needed that goes beyond measures being considered in (Western) digital platform regulatory and policy contexts. Certain applications of these techniques should not be permitted until such time as effective governance arrangements are in place. This is unlikely in the short term, and some will see any such step as unrealistic. This provocation is essential, however, to encourage greater awareness of the potential for alternative imaginaries to emerge through ongoing contestation around the private and public uses of these techniques. It is only by insisting on the need to imagine radical alternatives that critiques of digital platform practices are likely to dislodge the notion from its present hegemonic position. Mass individualization techniques need not be a "natural" outcome of innovation and market dynamics. "Denaturalizing" this notion is necessary to enable a full debate about the future of data-enabled societies that might lead to new practices.

The next section introduces mass individualization techniques and their salience for digital platforms. This is followed by a discussion of how neoclassical-inspired economic theories underpin imaginaries about the benefits of these techniques and also of how they are employed to diminish the claims of harms associated with them. The penultimate section discusses the value and limits of policy and regulatory responses to platform practices in the areas of privacy protection, content moderation, and competition policy. The aim of these policies and regulations is to mitigate harms associated with the use of mass individualization techniques in both their commercial and public implementations. Finally, in the

[2] For example, a Google Scholar search for the term "customer relationship management" in the title of articles in November 2019 yielded 127 articles in the decade 1990–1999, 4,380 in the decade 2000–2009, and 6,360 for the decade 2010–2019. "Personalization" yields 297 articles in 1990–1999, 3,230 in 2000–2009, and 5,250 in 2010–2019.

[3] "Imaginary" here refers to the normative notions about how sociotechnical relationships should operate; see Mansell (2012).

concluding section, the reasons that radical change in policy and practice are needed are summarized, and the likelihood that new imaginaries will emerge to guide such change is assessed.

Mass Individualization and Digital Platforms

A core aim of mass individualization is the efficient management of customer relationships in the interests of corporate growth and profitability. Increasing attention to this facet of business management coincided with the opening of the Internet to commercial use in the mid-1990s and the development of e-commerce for buying and selling online (see Koren, Shpitalni, Gu, & Hu, 2015; Vesanen, 2007; Zhang & Wedel, 2009). Although customer profiling predates the Internet, the aim always has been to amass as much information as possible about customers to support the customization of goods or services in response to what is understood to be customer demand—the idea that people have information available to them sufficient to make rational (or even semirational) choices. Today, the principal aims of customer profiling are to enhance customer experiences and to stimulate engagement with online platforms. The techniques of mass individualization are the means for this enhancement and stimulation. They involve collecting and processing data, identifying similarities and differences among individuals, and targeting people at varying levels of granularity. Personalization, or mass individualization, is treated as an efficient means of building ever better customer relationships (Mansell & Steinmueller, in press).

These techniques promise benefits to consumers or citizens, including convenience, price comparison, and online communication with "friends" or political parties. From the mid-1990s onward, relatively few checks on the development of mass individualization techniques were introduced, although privacy legislation put some constraints on personal data collection.[4] In much of the marketing and management literature that informed business investment in these techniques, it is assumed that the profiles created by capturing and analyzing data are a reasonable proxy for people's identities and preferences (Bleier, De Keyser, & Verleye, 2017).

Digital platform owners have been refining mass individualization techniques and pursuing the goal of greater efficiency by attracting users to their platform interfaces and deepening their engagement. This is achieved through both active and passive collection of data, and the uses for these data now extend well beyond e-commerce to include politics, public health, social policy, and law enforcement. Customer relationship management is about retaining users (customers or citizens), identifying those who are likely to be influenced, and encouraging them to affiliate with the brands of online service providers, banks, or social media platforms such as Amazon or Facebook. These processes support the attention economy, and they have become crucial for a thriving digital or data economy (European Commission [EC], 2020a; Wu, 2016). Whether the customer relationship concerns cars, computer hardware, computer games, insurance, or financial services, the goal is to provide a "personal" buying experience enabled by cost-effective artificial intelligence and machine learning technologies (Mansell & Steinmueller, in press). New kinds of human-machine interfaces are being envisaged with the capacity to further augment personalization, for example, when cyber-physical systems such as mobile phones, the Internet, and sensor networks are linked with people (Pathak, Pal, Shrivastava, & Ora, 2019).

[4] See Bennett & Raab (2020) for the history of data and privacy protection policy and legislation.

In this context, the need for customer privacy is treated as a relatively uncomplicated trade-off. This trade-off may require complex judgments, but it is deemed ultimately to be manageable (see Bednar, Spiekermann, & Langheinrich, 2019; Morley, Floridi, Kinsey, & Elhalal, 2019). Numerous developments in privacy protection technologies recognize that securing data to understand a customer's preference for a product (or political party) involves ethical considerations. However, this is typically interpreted as a requirement to make it possible for the customer to trust that a supplier will target individuals in ways that the individual perceives as yielding meaningful matches (see e-SIDES, 2020; SODA, 2020). Online suppliers of goods and services, including digital platforms, are expected to ensure that trust is not lost since a loss of trust will jeopardize their brand and market position. Insofar as there is a competitive threat to a company's position in the market, the aim is to win a race to develop next-generation technologies to maintain a market leadership position (EC, 2020b). In the marketing and management literature, innovative advances in mass individualization are envisaged as a positive "natural" evolutionary step toward, for example, *cobots* (collaborative robots), and the resulting customer-centric human-machine symbiosis is assumed to be empowering for humans and machines (Pathak et al., 2019).

Neoclassical-inspired economic theories bolster this imaginary of mass individualization in multiple ways, and these are discussed in the next section.

The Hegemony of Neoclassical-Inspired Economic Theories

Assumptions underpinning neoclassical-inspired economic theories sustain mass individualization imaginaries and the technical developments that enable digital platforms to position themselves as delivering efficient (and by implication, consumer welfare enhancing) outcomes for their users and the economy.

In the neoclassical theoretical account, enhanced mass individualization techniques are conceived as a productive way to achieve economic growth that is assumed to be consistent with the well-being of all individuals. If these techniques are imperfect at present, they are also subject to "improvement." Artificial intelligence-enabled algorithms are understood as neutral drivers of innovation. This neutrality is a consequence of the assumption that individuals have preexisting preferences that can be revealed through the techniques of customer profiling (e.g., their clicks and Web-surfing behavior). Through the revelation of preferences, participation on a platform facilitates an optimal matching of supply and demand. Consumers are assumed to freely give their consent to allow the supplier to do what is necessary to facilitate their experiences by collecting and processing their data. The individual is assumed to have made a rational choice to participate online and to have the requisite information to make such a choice. Power asymmetries or inequalities in consumer or citizen abilities to make choices are assumed to erode over time as market forces play themselves out.

The result is a reinforcement cycle that enables a supplier to capture and employ user-related data to intensify the user's experience. As Andrejevic (2019) says, "if targeted ads get it wrong, if police surveillance fails to accurately predict criminal activity, then these outcomes are repeatedly attributed to incomplete or inaccurate information: the system just needs to know everyone better" (p. 11). The production and consumption of digital content—entertainment and news—have been radically altered through these techniques. Free-to-air broadcasting and traditional print journalism migrated online with

access enabled by mobile and "over-the-top" platform services that rely heavily on profiling of individuals (Lobato, 2019). Dominated in the West by companies such as Facebook, YouTube, Hulu, Netflix, and Amazon Prime, there is still some competition (Donders et al., 2018) as, for example, when Netflix faces competition from Disney+ and others. The exogenous shock of innovation-inspired competition might make Netflix's dominance in the market ephemeral if novelties emerge and are introduced by another company. These companies are assumed to be continuously innovating to improve their offer to consumers using mass individualization techniques to improve the appeal of their content in local and global markets (Roxborough, 2019). If the entry of American-owned companies into the European market, for example, sparks market consolidation as local or national companies scale up to compete (Evens, 2014), this is treated within this theoretical framework as a positive and "natural" outcome of dynamic competition.

In the case of news media, where the tradition is an advertiser-supported business model in the Western countries (sometimes with state subsidy), journalism relies on building relationships with readers. Mass individualization techniques provide a means to target or personalize news. The leading digital platforms have been faster in adopting artificial intelligence-based matching techniques than the incumbent news organizations, establishing themselves as news aggregators. As late entrants to the use of these techniques, the news industry has been unable to scale up its own platforms and is largely dependent on the dominant platforms (Beckett, 2019; Bell & Owen, 2017). Within the neoclassical framing, the platforms' success is attributed to innovation and the efficiency of their profiling and matching algorithms. The decline of the older news industry is symptomatic of the failure of that industry to adjust to the exogenous shocks of technological innovation. The decline is taken as being illustrative of the "natural" process of creative destruction.

In this economics account, consumers are sovereign and deemed to be free to choose what entertainment content or news they watch or read. The efficiencies enabled by mass individualization techniques support company growth and profitability (Varian, 2016). Rising platform use is taken as evidence that the "winning" company or industry is using mass individualization techniques in an efficient way, at least compared with others. The evidence is supplied by the theory's assumptions and the imaginary can be sustained even if evidence emerges that leading companies are behaving in unfair or anticompetitive ways. Such evidence provides a case for reform, not for a fundamental restructuring of the rules governing platform operation.

Neoclassical economic theory allows some flexibility in accounting for new developments to allow a more realistic and nuanced account of the dynamics of competition.[5] Thus, for instance, behavioral or cognitive economics adds a dimension of psychological realism to the theory by relaxing the assumption that consumers have preformed and immutable preferences or can be counted on to act rationally (Tversky & Kahneman, 1992; Young, 2018). This has led to ideas about how to influence individual behaviors (Thaler & Sunstein, 2009) and to research on cognitive bias and predilections that contradict rational calculation (Bourgine, 2004; Kimball, 2015). In this variant of economics, individuals' preferences are not assumed to be exogenous or immutable; they can be "nudged" using mass individualization techniques. It is also recognized that individuals do not have complete information or knowledge and that the distribution of information can be uneven. These

[5] A pluralist or multidisciplinary economics embraces post-Keynesian, Marxist, Austrian, Institutional (new and old), Feminist, Behavioural and Complexity economics, see Fischer et al. (2018) and Keizer (2015).

assumptions open a new frontier for managing customers and citizens. Large firms can finance research and development, attract skilled workers, and innovate with the specific aim of influencing preferences and nudging behavior. Rather than being a threat of anticompetitive behavior, the contribution of these developments to market concentration is interpreted as further evidence of the need for large-scale operations to harness the opportunities for improved efficiency. If supranormal profits are achieved in this process, they are called innovative rents, and justified as a necessary invention to fuel innovation (Ellig & Lin, 2001).

Introducing these assumptions leaves the neoclassical economics edifice largely intact. It is still assumed that processes of innovation and competitive dynamics produce greater consumer welfare. The focus remains individualistic and it is assumed that the private appropriation of individuals' data is justified to ensure thriving markets. The platform companies demonstrating such superior performance at a given time may be vulnerable to malicious behavior, and they may incur costs in governing this behavior. These costs may include hiring human moderators to filter user-produced content or for developing efficient algorithms for content moderation. Vulnerabilities that affect platform growth or profitability can be interpreted as inefficiencies with a market solution. Platform operations that lead to other harms (not directly affecting platform growth or profitability) such as misinformation, online incivility, or increasing precarity in the lives of workers (Trust Truth and Technology Commission, 2018), are outside the economic framework and relegated to become the concern of some type of regulation.

These theoretical framings are also used to explain why a platform company benefits from economies of scale and scope because of network effects and its use mass individualization techniques. On the one hand, a Schumpeterian account of competitive dynamics suggests that creative destruction will lead to new entry driven by entrepreneurs. The assumption is that a dominant company like Google will be replaced by a competitive alternative that makes the most creative use of an algorithm or customer interface with its platform. On the other hand, a Schumpeterian view of creative destruction can also be used to argue that large companies have the greatest resources to devote to technology innovation (Schumpeter, 1947).[6] As long as Google or Facebook continue to attract users, it is imagined that they will not be replaced, and this provides a rationale for noninterference in the platform market (Bork & Sidak, 2012). Behavioral economics departs from this view by acknowledging the endogeneity of preferences and provides a foundation for challenging platform market dominance through interventions designed to stimulate the emergence of competitors (Wu, 2016).

In both these neoclassical theoretical framings, it is assumed that the optimal way to exploit opportunities afforded by mass individualization is through corporate appropriation of data. To succeed, a company has an obligation to design technologies that enable it to operate in a way that maximizes economic

[6] In Capitalism, Socialism and Democracy, Schumpeter (1947) entertained the idea that large companies might be able to institutionalise the innovation process and thereby effectively end the creative destruction process. He argued that a consequence of this would be that society would need to bring these companies under social control to preserve democracy. Although Schumpeter sometimes is identified as an Austrian School economist, his views are closely aligned with Friedrich Hayek, who saw a role for the state in providing a social safety net, whereas most other Austrian economists are more aligned with libertarian political theory.

value. Competitive dynamics are indicative of economic success—whether of a set of smaller, intensely competing companies or of a "natural" monopoly. Considerations of inequality or injustice associated with the processing of data are not part of these analytical models. As Tirole (2017) puts it, on questions about what kind of data or digital economy is desirable, economists have "little to say, except as an ordinary citizen" (p. 57).

Harms in the form of privacy invasions, unwanted surveillance, or declining abilities of individuals to understand the operation of the techniques of mass individualization did not go unnoticed during the early phases of enhancements in computer processing power and their application. Consistent with the view that technologies are imbricated with politics (Winner, 1986), in the pre–digital platform days, these strategies were widely criticized in the scholarly literature. The notion that personalization should be achieved using "voluntary" mass data collection techniques was problematized as a strategy to "develop systems that replace societal decisions governing life, liberty, and opportunity" (Andrejevic, 2007, p. 12). Asymmetries in the power relationships between individuals and platform service suppliers intent on marketing goods and services were criticized as untransparent methods of social control (Mansell, 1994). For example, methods of "designing" e-commerce using these techniques were depicted as new ways of "capturing" customers and as harbingers of a major step shift in the achievement of "surveillance by design" (Gandy, 1993; Lyon, 1994; Mansell, 1996; Samarajiva, 1996; Zuboff, 1988).

The scholarly literature is replete with critical examinations of asymmetrical customer- and citizen-supplier relationships that emerged with the growth of platform companies such as Amazon, Google, Facebook, and many others (Andrejevic, 2019; Couldry & Mejias, 2019; McGuigan & Manzerolle, 2014; van Dijck et al., 2018; Zuboff, 2019). Multiple government reports cite academics who challenge both the assumptions and insights of neoclassical and behavioral economics. When they do so, it is not assumed that platforms operate in a neutral bubble of economic supply and demand. Neither is it assumed that the use of mass individualization techniques is always intended to maximize consumer welfare. The digital platforms are understood to have the power to set the terms for platform access and use and for the collection and processing data. Even if individuals appear to derive pleasure from their online experiences, in these analytical traditions it is recognized that this is an "institutionalized audience" (Napoli, 2011), constructed out of opaque techniques of online relationship-building for the purposes of selling "persons." Mass individualization practices are also implicated as an exploitative class-based form of contemporary capitalism (McGuigan & Manzerolle, 2014).

The marketing and management literatures report work at the leading edge of developments in mass individualization techniques. What is absent in this literature is the critical scholarly concepts such as *datafication* or a *culture of surveillance* that signal uses of invasive techniques and individual and societal harms (Lyon, 2018; van Dijck, 2013; Zuboff, 2019). Instead, the imaginaries of the dominant economic theories in the marketing and management literature inspire heightened expectations for growth in online applications using mass individualization techniques. These crystallize in euphoria about the progress of artificial intelligence and a Fourth Industrial Revolution that portends the "fusion of digital, physical and biological technologies" (EC, 2020b; Schwab, 2017, p. 40; White House Office of Science and Technology Policy, 2020).

Policy and Regulatory Responses

These logics of neoclassical and behavioral economics also permeate the prevailing imaginary that conditions contemporary policy and regulatory responses to platform dominance. This is so even as such responses are aimed at restraining the digital platforms' uses of mass individualization techniques and their market dominance. Critical insights arising from other traditions in economics—and from other disciplines—are not entirely absent, but the hegemony of neoclassical economics theories makes it difficult to justify interventions in the platform marketplace or to support alternatives to the mass individualization platform models. In some instances, nevertheless, policy and regulatory proposals do resonate with the insights arising from critical scholarship. For example, in the United Kingdom, disquiet about the platforms' operations, and especially Facebook and Google's resistance to operating their mass individualization techniques in a transparent way, has led to calls for "regulation by outrage" (doteveryone, 2018, p. 20). In both the United Kingdom and the United States, the large social media platforms have been labeled as digital gangsters and charged with engaging in "evil" practices. Facebook has been called a "disinformation-for-profit machine," and social media has been described as a "corrupt system."[7] It is also argued that as long as the dominant platforms are permitted to employ commercial mass individualization techniques "the creation of public value toward the common good" is jeopardized (van Dijck et al., 2018, p. 22).

Calls for market intervention to secure public values are confronted with imaginaries that resonate with the prevailing economic theories. The default premise is that insofar as the (Western) state is involved in the platform marketplace, its role should be to minimize restraints on platform company behavior to eliminate frictions that reduce the efficiency of matching of supply and demand. When these theoretical logics are influential, there is a predilection for corporate self-regulation. Caution about market intervention is justified by the argument that digital platforms are neutral gateways between content suppliers (including advertisers) and their users or that their capacity to nudge people is consistent with leadership in developing the data economy. Although critical scholarship arguably has gained relatively little traction in limiting the pace of innovation in mass individualization techniques, contemporary outrage is galvanizing consideration of market interventions aimed at mitigating the harms associated with the leading platforms' practices. Three domains in which the hegemony of the neoclassical and behavioral economics imaginary is potentially waning are considered here: privacy protection and content moderation; competition policy and antitrust enforcement; and alternative models for the provision of platforms.

Privacy Protection and Content Moderation

Policy makers are increasingly concerned that the mass individualization operations of the largest platforms have negative consequences such as targeting people with misinformation, enabling behaviors that are harmful to vulnerable children and adults, or nudging and manipulating the users of their platforms in ways that are disadvantageous to them. In the United Kingdom, platform self-regulation is deemed to be failing (Select Committee on Communications, 2018; Secretary of State for Digital, Culture, Media and Sport & Home Office, 2019). Regulation to oversee the operations of digital platforms to achieve greater

[7] See Select Committee on Communications (2018) and Senator E. Warren (as cited in Culliford, 2019) citing, and Senator S. Brown (as cited in Paul, 2019).

transparency of mass individualization techniques (the algorithms), especially in their application to content moderation, is being introduced in Europe (EC, 2020c) and, in the United States, there is controversy about the role of the platforms in influencing elections (Benkler, Faris, & Roberts, 2018; Miers, 2020).

The dilemma accompanying any new market intervention is to ensure that governments do not use their recognition of harms as a justification to give themselves powers that infringe on individuals' rights and freedoms. Proportionate approaches are called for and, in some instances, proactive legislation, for example—to combat hate speech online—is overturned. For example, the French constitutional court rejected a proposed regulation of social media platforms as infringing on free expression rights (Dillet, 2020), and there are signs that the courts will intervene in other jurisdictions. The contradictory social values of privacy protection and freedom of expression make it difficult to intervene in a way that redirects the platforms' ongoing development of their mass individualization techniques. The imaginary, fostered by the dominant neoclassical-inspired framings, emphasizes to policy makers that individuals are well-placed to reveal their preferences in the digital market or that they are happy with the outcomes of their online interactions. Regulatory measures are sometimes proposed as means of achieving algorithm neutrality, itself a notion derived from a neoclassical theory that only acknowledges "values" to the extent that they are reflected in the choices of individuals. Although the aim of policy is often to constrain the way mass individualization techniques operate and they can yield platform compliance, this does not necessarily slow the progress of innovation in this area. For example, when the European Union's General Data Protection Regulation came into effect in 2018 (EC, 2016), it introduced a consent requirement between the platforms and their users for the collection of personal data. The result is a privacy protection regime characterized as a "pathology of consent" because of the absence of meaningful choices offered users (Richards & Hartzog, 2019) and technical innovations with little if any transparency continue to advance.

Competition Policy and Antitrust Enforcement

Responses to these platform uses of mass individualization techniques also include market structure remedies using competition policy. For example, an independent Digital Competition Expert panel in the United Kingdom has concluded that "competition for the market cannot be counted on, by itself, to solve the problems associated with market tipping and 'winner-takes-most'" with regard to platforms (Digital Competition Expert Panel, 2019, p. 4). This suggests a shift away from the use of a narrow consumer welfare test of anticompetitive behavior by the leading platforms. In the European Union, there are pressures to modify the criteria used to assess anticompetitive behavior, for example, by taking nonprice factors such as business practices that infringe on individuals' privacy into account (Just, 2018). Policy makers also are being urged to take the insights of behavioral economics into account. As one report for the European Commission put it, account should be taken of

> the strength of consumers' biases toward default options and short-term gratification. . . . one may want to err on the side of disallowing potentially anticompetitive conducts, and impose on the incumbent the burden of proof for showing the pro-competitiveness of its conduct. (Crémer, de Montjoye, & Schweitzer, 2019, p. 4)

In the United States, there are moves toward more effective antitrust legislation enforcement even among those typically aligning themselves with the neoclassical-inspired imaginary of the dynamics of competition. However, this is justified by stepping aside from the limiting economics framework to consider issues of political power and democracy or privacy (Market Structure and Antitrust Subcommittee, 2019). There also are suggestions for changing the test for anticompetitive behavior to acknowledge the characteristics of the attention economy (Wu, 2019), although some argue that existing restrictive tests of whether platform practices are harming consumer welfare as indicated by price movements could be used more effectively (Khan, 2017).

Ambitions for stronger enforcement of competition policy are much in evidence. In Europe, the Directorate General for Competition has levied fines on Google (EC, 2019). Investigations in Europe are focusing, for example, on whether Apple's rules for app developers seeking to distribute apps via its App Store and for the use of its Apple Pay technology violate competition rules by enabling Apple to function as a restrictive gatekeeper (EC, 2020e, 2020d). In the United States, the Federal Trade Commission levied a substantial fine on Facebook (Federal Trade Commission, 2019), and the Justice Department has initiated a broad review of the practices of the market-leading online platforms (U.S. Department of Justice, 2019). In the U.S. Congress, varying amounts of bipartisan support have been mobilized for breaking up Google, Facebook, and Amazon by structurally separating the communication or conveyancing side of their businesses from their applications businesses (McLeod, 2020). Competition policy measures, short of breaking up the dominant platforms, include enforcing standards of interoperability to increase data access and data sharing across platforms. For example, data mobility and interoperability standards among platforms might be required to enable individuals to switch to an alternative platform. Regulation to treat the platforms as *public utilities* or to make them liable for illegal or harmful content hosted on their platforms is also being given consideration (Waters, 2020).

In instances of a more proactive use of competition legislation, the endogeneity of consumer preferences and the insights of behavioral economics offer an imaginary that may justify intervention in the platform market. The outcomes are likely to be conditioned, however, by the argument that technological innovation should not be suppressed. The requirements for justifying intervention set the bar high because investment in artificial intelligence and machine learning technologies is still assumed to have long-term social benefits. Together with claims of near-term consumer benefits, these prospects of longer-term benefits lead to caution, even if competition authorities agree that the platform market is unduly concentrated. This caution seeks to ensure that the benefits of platform innovation are not "lost through hasty, inappropriate or disproportionate intervention" (Competition and Markets Authority, 2017, p. 2).

Alternative Models for Platform Provision

The above policy measures are complemented by efforts to develop alternative platform models that give priority to public values such as privacy protection and freedom of expression. Many of these focus on the platform ownership and on permitted uses of data, inspired by an imaginary that assists in envisaging that, "it is certainly possible to create networks that do not collect and store detailed information about users" (Andrejevic, 2019, p. 56), especially when mass individualization techniques are not subject to corporate ownership. A move to public or individual data ownership rules might enable data to be used in

more socially productive ways including moves toward a more equitable economy. Initiatives to support civil society or public platforms are mobilized by various data justice movements with the aim of achieving platform governance that respects human autonomy and offers individuals effective or "real" individual choice instead of seducing them into providing their data to feed corporate mass individualization engines (Ananny & Crawford, 2018; Freedman, 2019; Hintz, Dencik, & Wahl-Jorgensen, 2019; Segura & Waisbord, 2016; Trottier & Fuchs, 2015). In the media and journalism fields that rely on mass individualization techniques, the aim is to configure platforms to achieve "a truly public media—one that is genuinely accountable to and representative of publics" (Freedman, 2019, p. 2014) and a "public service journalism" that acknowledges its essential role in democracy (Pickard, 2020).

In most instances, however, such alternative platforms are envisaged as operating adjacent to the commercial platforms. In time, they may prove to be workable at scale if a financing model can be put in place, but none has achieved significant scale so far (apart from Wikipedia or Wikinews, both of which rely on voluntary contributions and do not pay their contributors for their content contributions). In addition, the collection of individuals' data remains central to some of these platform alternatives. As public service media work to retain their audiences, and especially younger viewers (Select Committee on Communications and Digital, 2019), they are innovating with mass individualization techniques. For example, BritBox, the digital video subscription-based platform launched by BBC Studios and ITV plc, employs mass individualization techniques to target users and serve advertisements to them. The BBC's Data Insights Division is involved in data-led design, experimentation, and audience analysis using data analytics to increase the BBC's platform "signed in" users to promote relevant content (Mari, 2019). In these instances of publicly owned platforms, users are being surveilled and data are being collected and justified by a commitment to the public values that define the BBC's mission. This use of mass individualization techniques reinforces the citizens' habit of yielding their data to a platform so that they can be targeted.

Various alternative platform models provide for individual data ownership or collective data management as a means of achieving "data dignity" (Lanier & Weyl, 2018), but imaginaries of the benefits of the techniques of mass individualization remain present in these the models even if they are inspired by theories critical of corporate ownership (see HAT, 2020; Solid, 2020). There can be no guarantee that collective governance favoring public values will be immune to harmful or discriminatory data collection and monitoring processes and outcomes, not the least because the algorithms embedded in the techniques are not transparent. These efforts to grow alternative platforms are engaged in nudging individuals in ways that bear a strong resemblance to the corporate use of these techniques, albeit with the expectation of achieving public good. Whether deployed in support of media and journalism or in any other activity, alternative models of mass individualization sustain the view that the benefits of advanced implementations of these techniques outweigh the risk of harm. In this regard, this view is uncomfortably reminiscent of the imaginary that is inculcated by the hegemonic economic theories because the basic assumption is that the application of datafication techniques can sustain outcomes consistent (on balance) with citizen welfare and democracy and that individuals are positioned to make effective choices.

Conclusion: Toward a Radical Rethinking

Technology-enabled mass individualization today is largely driven by digital platform and data analytics companies in the private sector. Policy measures seek to mitigate the harmful outcomes associated with commercial platform use of mass individualization techniques. Alternative platform models are deploying similar techniques, subject to public ownership or individual data ownership and collective governance arrangements to secure public values. The imaginary inspired by the dominant economic theories is underpinning individual monitoring on a grand scale and this is assumed to be acceptable when it is motivated by a contribution to the collective good. The neoclassical and behavioral economics theories posit efficiency and consumer welfare gains as the outcome, whereas alternative platform initiatives posit greater effectiveness in achieving public interest goals.

Consider the option of not permitting mass individualization techniques at all; that is, restricting their use in certain contexts (such as health protection) or an outright ban on passive collection and processing of data generated by individuals' online interactions. This may seem an unrealistic recommendation, but there are already signs of a willingness to block certain applications. For example, demands have been made to block the use of facial recognition technology by police forces in Europe (Shead, 2020). Examples of uses of some of the features of these technologies that do not involve collection of data about individuals or seek to minimize it do exist; for instance, decentralized COVID-19 apps that do not share personal data with authorities. Efforts to halt the data collection that feeds centralized versions of these apps are being blocked by policy, as in the case of Norway, when the Data Protection Authority found that the COVID-19 track and trace app was unjustifiably privacy invasive and the public health authority stopped the practice (Hoeksma, 2020). In the United Kingdom, a similar app was abandoned before it was launched nationwide, and some countries in Europe have opted for decentralized approaches.

Overall, however, both corporate and public approaches to the use of mass individualization leave behavioral manipulation largely unchallenged. The progressive advancement of mass individualization techniques stays intact since the imaginary of inevitable technological progress is not being confronted in a way that effectively denaturalizes it. This is because wider questions about whether societies might be organized in a way that is not heavily dependent on artificial intelligence–enabled prediction engines is rarely discussed. A convincing imaginary of how these techniques might be designed to avert harms associated with intensive and unaccountable data collection and surveillance is not prominent in policy debate beyond considerations of privacy protection.

Contemporary policy initiatives that align with, or do not challenge, the prevailing economic logics concerning the role of data in Western societies cannot succeed in directing technological innovation away from furthering the development of mass individualization techniques. Competition policy proceedings may restrain future platform mergers and acquisitions or break up the dominant platforms into smaller operating entities, but they do not deter the development of these techniques. Privacy legislation may be upgraded to curtail certain invasive practices with a reduction in some of the harms associated with the platforms' operations. But the zeitgeist of monitoring individual behavior for profit or for social good shows few signs of diminishing. Policy responses and the initiatives by public and collective civil society actors do little to forestall the refinement of techniques that are less and less susceptible to external (and perhaps even

internal) control because of their dependence on artificial intelligence-enabled systems that infringe on the basic autonomy of human beings.

Mass individualization techniques are developing within the imaginary logics of a "natural" innovation process even when attention is given to enforcing respect for public values. If the prevailing imaginary about the benefits of mass individualization is not challenged, the possibility of human autonomy is likely to decline. Imaginaries of alternative futures not based on the massive and intrusive data collection requirements of mass individualization are needed in parallel with near-term politically viable harm mitigating measures. The human imagination surely can conjure alternatives. For this to happen, there will be a need to shift away from neoclassical-inspired imaginaries through a reassessment of the "moral limits" (Kant, 1785/2012) of techniques and practices of the commercial digital platforms, and of their public and collective platform counterparts. Their uses of mass individualization—whether for profit or for social good—operate by stealth. They are predicated on asymmetric access to information. They also disable people's capacities to make choices about their lives in a meaningful way. Any such break on the progress of artificial intelligence-enabled mass individualization is unlikely, however, if people do not come to recognize that "their current situation is unacceptable" (Manyozo, 2017, p. 28).

When it is acknowledged that resistance can emerge through questioning and debate about the benefits and harms of mass individualization techniques (Cammaerts & Mansell, 2020), it is feasible to consider alternative digitized worlds that would favor emancipation from datafication practices that limit human autonomy. It may be argued that mass individual monitoring and surveillance of human populations have social value as in the case of "sousveillance" (Mann, Nolan, & Wellman, 2003) or when used in control systems that limit environmental degradation or the spread of disease. However, because there is little evidence that harms associated with these technologies can be mitigated effectively, measures are needed urgently to halt the encroachment of these techniques into citizen's lives. In answer to the question in the title of this article, it is unlikely that alternative imaginaries will take hold on a scale substantial enough to suppress prevailing imaginaries of the "natural outcomes" of digital technology innovation in the short term. Although commercial and publicly supported mass individualization is here to stay for some time to come, this is not an inevitable outcome. Future imaginaries could give rise to novel policies and practices that restrict uses of mass individualization techniques. This could help to weaken the hegemony of neoclassical-inspired theories and succeed in shifting the focus of innovation in artificial intelligence in a way that is conducive to enhancing values associated with individual and collective autonomy.

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