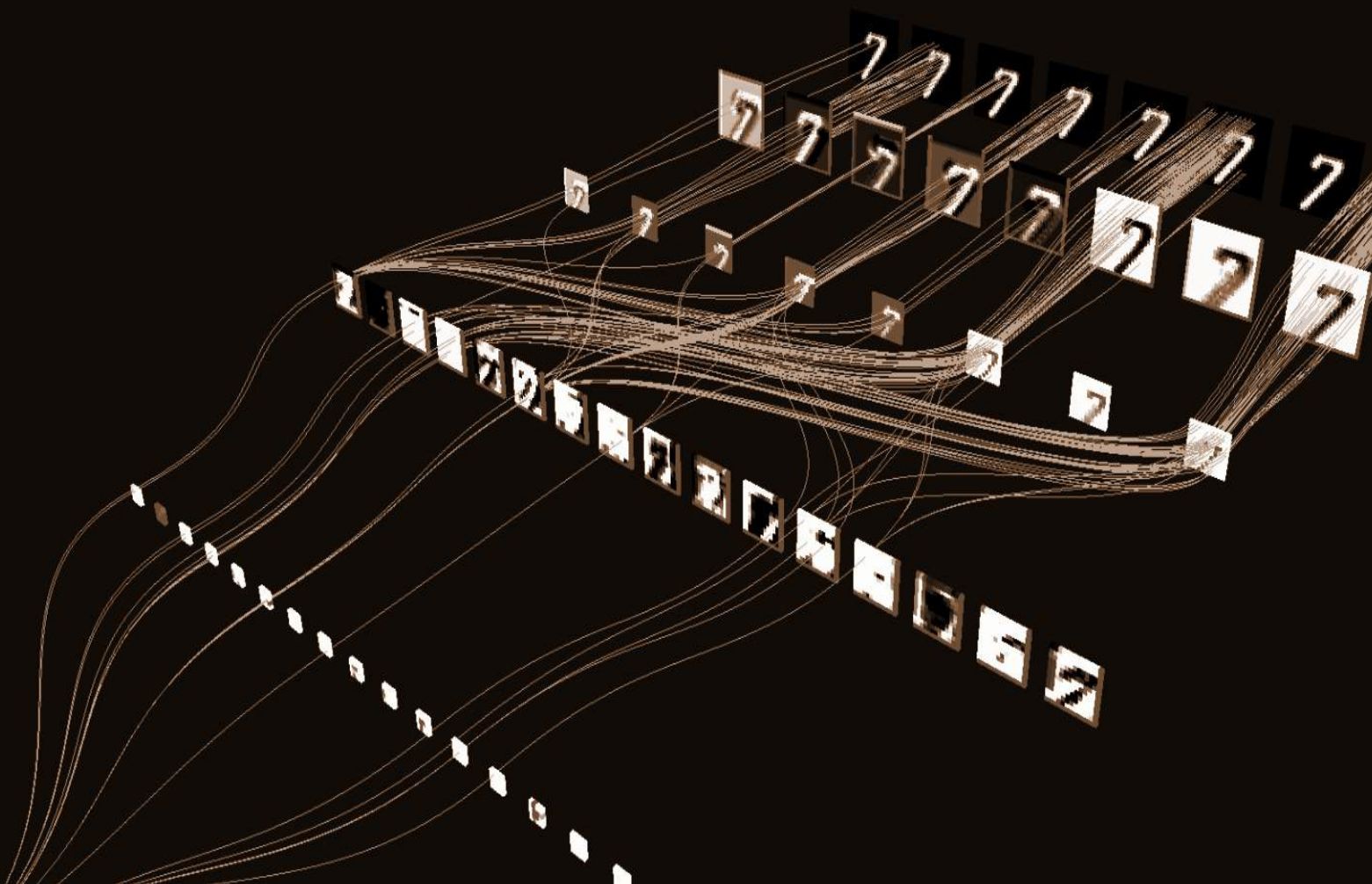


The Impact of Artificial Intelligence on Personal Identity

(Final Condensed for the Laidlaw Submission)

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1 Introduction

We now face a new turning point in innovation; Artificial Intelligence (AI). AI can be considered the closest approximation to the cartesian “thinking thing” that the human species has ever endeavored to create. Just as the agricultural or industrial revolution required a new ethos, the age of AI will bolster its own. This paper examines the intersection of artificial intelligence (AI) and personal identity, exploring how AI technologies reshape our self-conception within the context of surveillance capitalism. By applying McAdam’s narrative identity framework, the paper investigates how AI’s influence alters the categories that constitute individual identity. Ultimately, the paper situates these developments within broader socio-economic structures, questioning whether AI undermines or merely complicates our understanding of self-determination. Through this analysis, the paper seeks to provide a nuanced perspective on the ethical and existential implications of AI’s integration into the structures of identity.

2 Artificial Intelligence

2.1 Definitions and Characterization of the Field

This essay will use a working definition of AI as: a non-human system capable of simulating cognitive functions traditionally associated with human intelligence, whether embodied in physical form or existing as disembodied software. These systems operate autonomously, often driven by motives and purposes that may be opaque or even incomprehensible to us¹. AI is a broad and intricate field, encompassing a wide range of technologies and approaches. Consequently, outcomes classified under “Artificial Intelligence” can be so diverse that they resist easy generalization. A clear distinction can be made between Symbolic AI and Connectionist AI. Where Symbolic AI focuses on manipulating explicit symbols and rules to represent knowledge and reasoning (e.g., using logic-based systems like expert systems to solve problems), Connectionist AI, such as neural networks, models intelligence through distributed, interconnected units that learn patterns from data (e.g., a neural network recognizing images by adjusting weights between neurons)². Machine learning, deep learning, and neural networks are interconnected sub-fields of artificial intelligence.³ Machine learning involves using algorithms that often require human intervention to identify features in data, to allow AI to imitate the mechanisms of humans learning, gradually improving its accuracy over time. Deep learning, a subset of machine learning, leverages neural networks with multiple layers to automatically process large, unstructured datasets with minimal human input, making it highly scalable. Neural networks, the foundation of deep learning, consist of interconnected nodes that simulate human brain functions, with deep learning referring specifically to networks with more than three layers⁴.

¹Wischmeyer, Thomas. ‘Artificial Intelligence and Transparency: Opening the Black Box’. *Regulating Artificial Intelligence*, edited by Thomas Wischmeyer and Timo Rademacher, Springer International Publishing, 2020, pp. 75–101. DOI.org (Crossref), https://doi.org/10.1007/978-3-030-32361-5_4.

²Ai for beginners—The difference between symbolic & connectionist ai. (2020, September 24). RE●WORK Blog - AI & Deep Learning News. <https://blog.re-work.co/the-difference-between-symbolic-ai-and-connectionist-ai/>

³What Is Machine Learning (ML)? — IBM. 22 Sept. 2021, <https://www.ibm.com/topics/machine-learning>.

⁴What are Neural Networks? — Updated 2024. (n.d.). The Interaction Design Foundation. Retrieved 26 August 2024, from <https://www.interaction-design.org/literature/topics/neural-networks>

In this paper, I will take intelligence to indicate the computational part of the ability to achieve goals in the world. Whilst this definition may appear incomplete, however, the cognitive sciences have not yet fully determined ⁵ the exact nature of human mental abilities, leaving some unavoidable ambiguity in our understanding of intelligence, both artificial and biological.

2.2 Data and Algorithms

The relationship between the Dataset and the Algorithm is endemic to discussions around AI. As Pedro Domingos, a prominent AI researcher, puts it, “as a rule of thumb, a dumb algorithm with lots and lots of data beats a clever one with modest amounts of it”⁶. In essence, an algorithm is a process for accomplishing a task. An instruction manual for an Ikea closet is a simple type of algorithm. Artificial Intelligence represents the most complex kinds of algorithms. Back in 2007, University of Alberta created an algorithm that could process over 500 quintillion (500 million trillion) to complete the game of checkers and never lose ([“computer program can’t lose,” 2007]. There are also unsupervised learning algorithms which researchers can shove in unstructured data and rely on machine learning methods to allow AI to find, otherwise undetectable, patterns. Many of these algorithms are imperfect and leading researchers, like those at OpenAI, use a variety of training methods (supervised pre-training, reinforcement learning, fine-tuning) to improve the performance of these algorithms. The primary distinction in cases like chatGPT and the game of checkers is that, many of our general purpose technologies that we desire (chatbots, image generators or even chess algorithms) are dealing with exponentially larger possible input sets. Although hard to conceptualise, the difference between checkers and chess, in terms of data points necessary for a deterministic algorithm, is incalculably large and quickly exceeds our processing capabilities as humans; we will not have a deterministic chess playing algorithm any time soon. This exponential increase in complexity is often associated with what is known as the “long tail” problem (Bengio et al., 2013)⁷.

⁵Sabharwal, A., & Selman, B. (2011). Book review. *Artificial Intelligence*, 175(5–6), 935–937. <https://doi.org/10.1016/j.artint.2011.01.005>

⁶Domingos, P. (2012). A few useful things to know about machine learning. *Communications of the ACM*, 55(10), 78–87. <https://doi.org/10.1145/2347736.2347755>

⁷Bengio, Y., Courville, A., & Vincent, P. (2013). Representation learning: A review and new perspectives. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 35(8), 1798–1828. <https://doi.org/10.1109/TPAMI.2013.50>

3 Personal Identity

3.1 Key Concepts

Outside of the philosophical canon, the term 'personal identity' references the features of ourselves to which we have a sense of attachment or ownership. The personal identity is made up of those properties which one uses to "make the person who they are" or to define their unique person-hood. The features which determine personal identity is known as the "characterisation question"⁸. Adjacent to this is the question of persistence; what does it take for a person to persist from one time to another. The persistence of personal identity over time has previously been argued to be constituted by an individual's biological and/or psychological continuity, including memories, beliefs, desires, and crucially, their physical body. In recent decades, philosophers have recognised that identity is also shaped by our life stories. Neo-Lockean thinkers argue that we summarise and condense our past experiences into a cohesive autobiographical narrative, often referred to as the diachronic self⁹.

3.2 A Framework for Personal Identity

Dan P. McAdams' narrative identity theory offers a compelling framework for understanding personal identity through the lens of storytelling. McAdams suggests that our identities are shaped by the internalized and evolving narratives we create about our lives—stories that integrate our past experiences, present actions, and future aspirations into a cohesive whole. This narrative identity model can be loosely divided into four different components¹⁰

Ideological Setting: Represents the backdrop of fundamental beliefs, values, and principles that shape the life story. For many parts of the Western world, this includes Christian ethics and liberal democracy¹¹.

Personal Imagoes: Refers to the idealized and personified versions of 'the self' that we place upon other people in our lives.

Nuclear Episodes: Key events in the past that indicate particular turning points in life.

Generality Script: A plan within the life story that outlines how the person intends to leave a positive legacy for future generations.

⁸Helm, P. (1979). Locke's theory of personal identity. *Philosophy*, 54(208), 173–185. <https://www.jstor.org/stable/3750072>

⁹Schechtman, M. (1996). *The constitution of selves*. Cornell University Press. <https://www.jstor.org/stable/10.7591/j.ctv75d3xw>

¹⁰McAdams, D. P. (2017). Life-story approach to identity. In V. Zeigler-Hill T. K. Shackelford (Eds.), *Encyclopedia of Personality and Individual Differences* (pp. 1–4). Springer International Publishing. https://doi.org/10.1007/978-3-319-28099-8_530-1

¹¹Foucault, M. (1977). *Discipline and punish: The birth of the prison* (1st American ed). Pantheon Books.

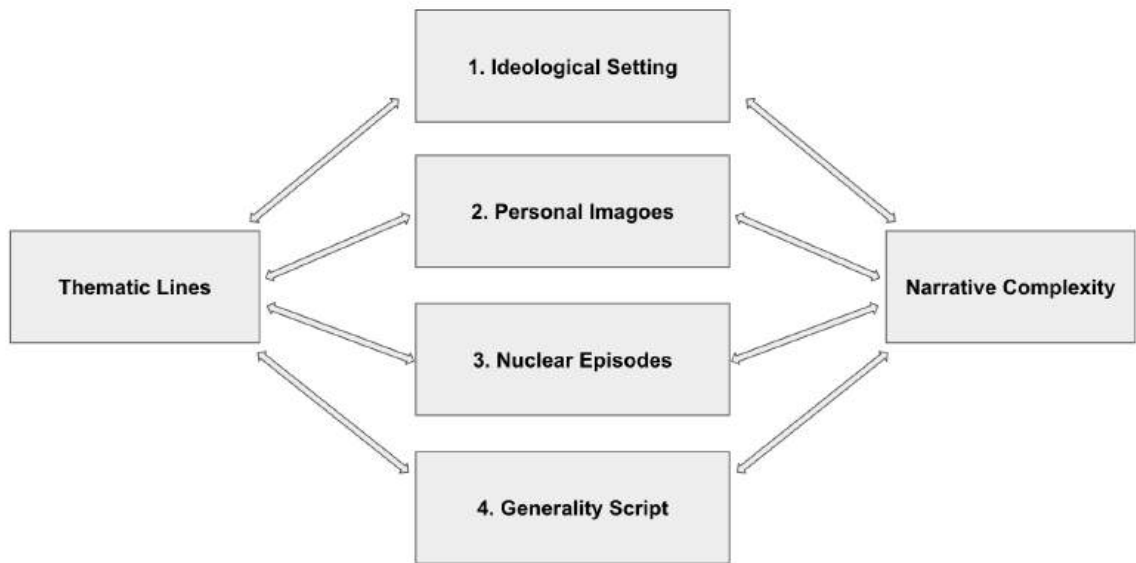


Figure 1: Identity as life story and its components – The model of Dan P. McAdams (McAdams, 1988, p. 61)

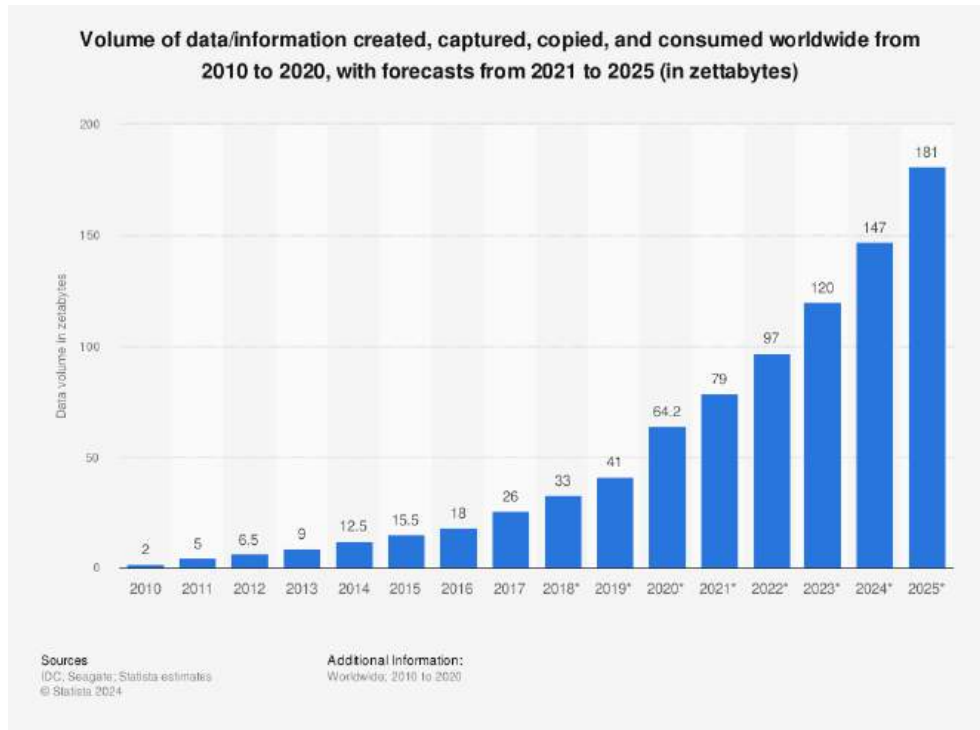
4 Data and Digital Economies: The Socio-Economic Context of AI Implementation

4.1 The Rise of Data

In the late 1980s, less than 1% of the world’s technologically stored information was in digital format, while it was 94% in 2007, with more than 99% by 2014¹². Similarly, as an example of the increasing scale of data becoming available, it’s estimated that Google processes over 8.5 billion searches per day, while facebook contributes 150 billion content interactions (including likes, comments, and shares) daily, all of which are stored and analyzed by various companies. Estimates suggest the global datasphere, encompassing all created, captured, and replicated data, reached a staggering 2.7 Zettabytes (1-Billion Terabytes) in 2017¹³. It is important to note that it is also increasingly difficult to escape the tracking of personal data due to the proliferation of digital devices and sensors embedded into our environments. Aside from our online activity, it is also the case that our phones, cars, home assistants, smartwatches, and other connected devices constantly collect data about our offline behaviors. This data is being used in a new economic system where human experiences and behaviours are commodified and exploited for profit through the extraction, analysis and sale of personal data. This fundamental transformation of the economic relationship between technology and power was proliferated by Shoshana Zuboff in her seminal work ‘The Age of Surveillance Capitalism’.

¹²Hilbert, M., & López, P. (2011). The world’s technological capacity to store, communicate, and compute information. *Science*, 332(6025), 60–65. <https://doi.org/10.1126/science.1200970>

¹³Services. (n.d.). Health IT. Retrieved 30 August 2024, from <https://healthit.com.au/>



4.2 Surveillance Capitalism: A New Paradigm

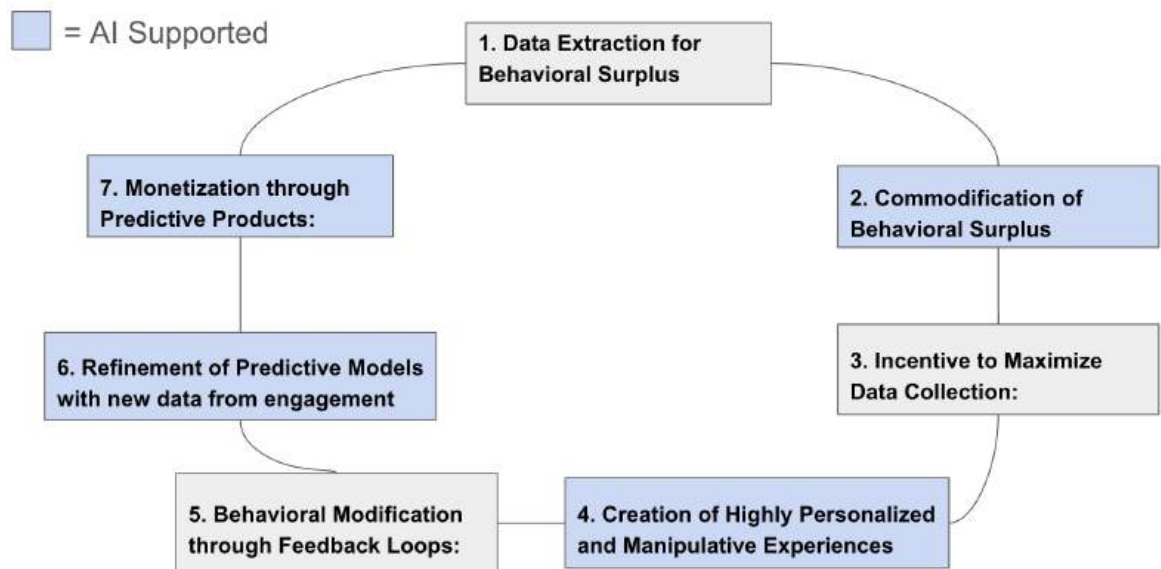
Unlike commercial or industrial capitalism, the commodity for Surveillance capitalism is—as Zuboff identified—the users of technology. The data around our routines, feelings, activity, desires are for sale in a capitalist system where power is centralised around the digital sector. There seems to be a reluctance to confront the fact that some of the biggest companies in the world (Google, Meta, Wechat, Youtube, Tiktok) have products that are entirely free and what is for sale is merely your attention. Notably, this data is heavily centralised, with 72% of global advertising spending is controlled by just two companies; Google and Facebook (Couldry & Mejias, 2019)¹⁴. Similarly, in 2014, Acxiom, a leading data broker, claimed to have 700 million customers worldwide and held over 3,000 pieces of information on every U.S. citizen.¹⁵

¹⁴Couldry, N., Mejias, U. A. (2019). *The costs of connection: How data is colonizing human life and appropriating it for capitalism*. Stanford University Press.

¹⁵Reynolds, A. (2018). *Web of deceit: Misinformation and manipulation in the age of social media*. NATO Strategic Communications Centre of Excellence.

4.3 AI's Role in Surveillance Capitalism

Zuboff continues to argue that "behavioral surplus" is harvested by companies to create detailed profiles and predictive models of individual behavior. These models are not only used to enhance the services provided but, more critically, they are sold to third parties, such as advertisers, who seek to influence consumer behavior. The crux of Zuboff's argument is that this process of data extraction and commodification occurs largely without the knowledge or consent of the individuals from whom the data is taken. This asymmetry of power¹⁶ is a hallmark of Surveillance Capitalism, where the data collectors (often large tech companies) wield significant control over the data producers (the users). Moreover, Zuboff introduces the idea of "instrumentarian power"¹⁷ a new form of power that Surveillance Capitalism exerts over society. Unlike totalitarianism, which seeks to impose control through overt coercion, instrumentarian power works by shaping and modifying behaviour subtly and continuously. Through the use of algorithms and data analytics companies can nudge users toward certain actions or decisions, often without the users being aware of this manipulation. This power operates through the constant monitoring and analysis of behaviour, effectively turning every aspect of life into a source of data that can be translated into profit. Ultimately, the crucial mechanism to make sense of this data is Artificial Intelligence.



Overview of the incentive landscape under Surveillance Capitalism; facilitated by Artificial Intelligence

¹⁶ Ai and identity. (n.d.). Retrieved 29 August 2024, from <https://arxiv.org/html/2403.07924v2bib.bib20>

¹⁷Risse, M. (2023). *Political theory of the digital age: Where artificial intelligence might take us* (1st ed.). Cambridge University Press. <https://doi.org/10.1017/9781009255189>

5 The Impact of AI on Personal Identity

In the age, where self-representation is cultivated and carried out online, the digital world has become the stage for individuals to platform their identity; “These platforms, equipped with AI algorithms, hold a dual role. They are both facilitators of self-expression and, simultaneously, influencers of how the self is portrayed” (Borivoje. (2023)¹⁸. Decoding identity and representation in the age of AI). For the purposes of compartmental convenience, I will go through the model of McAdam’s Narrative Identity and provide analysis on the primary ways in which AI is redefining each category; crucial mechanisms that in shaping our identities.

The concept of an individual’s ‘ideological setting’ refers to the broader framework of beliefs, values, and cultural norms that guide how people interpret their experiences and shape their life stories. The advent of AI-driven hyper-personalization where personal data is analyzed and tailored to create individualized user experiences—represents a profound shift in how these ideological settings are influenced. By customizing content and recommendations based on users’ past behavior, AI not only caters to existing preferences but also subtly shapes beliefs and actions over time. For instance, Google’s search algorithm, which personalizes search results, exemplifies how this personalization can lead to the “filter bubble” effect, reinforcing existing viewpoints and thereby narrowing the diversity of perspectives encountered by users¹⁹. While this hyper-personalization can foster a sense of belonging, it also risks pigeonholing individuals into categories predefined by algorithms, reducing the plurality of human identity. The desire to predict human behavior is not new; it is rooted in historical practices such as census-taking and demographic studies, which aimed to anticipate and influence actions. A modern example is Target’s pregnancy prediction model, which used data analytics to predict pregnancies with remarkable accuracy, subtly influencing consumer behavior through targeted marketing²⁰. This predictive power has expanded with AI, as seen in the Cambridge Analytica scandal, where data from millions of Facebook users was harvested and used to create highly personalized political ads, illustrating the potential for AI to manipulate ideological settings on a massive scale²¹. AI’s ability to uncover patterns in data that users themselves may not be aware of allows companies to “know us better than we know ourselves,” potentially reshaping our ideological landscape by selectively reinforcing certain beliefs while marginalizing others²². The development and deployment of these AI systems are controlled by a small, homogenous group of developers, primarily from Western, educated, industrialized, rich, and democratic (WEIRD) societies. This concentration of power leads to the imposition of their values on a global scale, as the biases encoded in AI training data

¹⁸Baltezarević, B. (2023). Decoding identity and representation in the age of AI. *Megatrend Revija*, 20(2), 141–146. <https://doi.org/10.5937/MegRev2302141B>

¹⁹New Epsilon research indicates 80% of consumers are more likely to make a purchase when brands offer personalized experiences. (n.d.). Retrieved 31 August 2024, from <https://www.epsilon.com/us/about-us/pressroom/new-epsilon-research-indicates-80-of-consumers-are-more-likely-to-make-a-purchase-when-bran>

²⁰Duhigg, C. (2012, February 16). How companies learn your secrets. *The New York Times*. <https://www.nytimes.com/2012/02/19/magazine/shopping-habits.html>

²¹Gross, T. (2019, October 8). Whistleblower explains how cambridge analytica helped fuel u. S. ‘Insurgency’. *NPR*. <https://www.npr.org/2019/10/08/768216311/whistleblower-explains-how-cambridge-analytica-helped-fuel-u-s-insurgency>

²²Nissenbaum, H. (2009). *Privacy in context: Technology, policy, and the integrity of social life*. Stanford University Press

perpetuate systemic prejudices, as Safiya Noble argues in “Algorithms of Oppression”²³. As AI becomes central to decision-making across various sectors, the ideological settings of individuals are increasingly shaped by the assumptions of this minority group, leading to a homogenization of perspectives and a narrowing of the ideological diversity that is crucial for a pluralistic society²⁴.

The modus operandi for the function of ‘Personal Imagoes’ is subverted under the paradigm of Artificial Intelligence as our our ‘life stories’ or ‘Personal identity’ is removed from any semblance of the philosophical understanding established in section 2 and replaced by a set of statistical datapoints. These AI structures attempt to represent each user’s unique identity through a collection of quantifiable attributes, essentially creating a digital approximation of the individual. This representation often exists in the form of high-dimensional vector fields²⁵ to statistically capture a specific individual. When AI is applied to human-generated data, these algorithms operate over *statistical representations* of individuals and groups. These representations are not simply mirrors of reality, but rather probabilistic models that capture tendencies, preferences, and behaviors across large populations. Allow us to consider the specific example of an algorithm called ASTA²⁶ who is trained on approximately 50 input parameters to make a decision (high likelihood prediction) to determine the risk of long-term unemployment for Danish citizens. This model takes this set of parameters and creates a profile for each user with their respective set of 50 data points. Most of these data points are expected – age, income, gender, previous employment status – but some are not; “the longitude of the citizen’s residence”, “the number of different social workers involved with the citizen’s case at the job placement center”, “whether the citizen allows the job placement center to send him or her text messages”. Intuitively, these ASTA parameters seem completely unrelated to our ordinary understanding of which factors contribute to the risk of long-term unemployment. That is, the ASTA parameters do not reflect properties that we would ordinarily accept as being relevant to the questions about our occupational or professional identity. This human tendency to anthropomorphize AI systems complicates this dynamic, deepening the dissonance between the AI’s statistical representation and the individual’s narrative identity (Maher et. al. 2023²⁷).

In McAdams’ framework, nuclear episodes represent key scenes or events from an individual’s past that play a crucial role in shaping their identity narrative. As of 2024, 5.45 billion²⁸ people use the internet daily, with the average user spending 6 hours and 31 minutes online. Our interactions with algorithms increasingly shape our life-narratives, altering how episodes are experienced and remembered. AI’s

²³Noble, S. U. (2018). *Algorithms of oppression: How search engines reinforce racism*. New York University Press

²⁴Stathoulopoulos, K., & Mateos-Garcia, J. C. (2019). Gender diversity in ai research (SSRN Scholarly Paper 3428240). <https://doi.org/10.2139/ssrn.3428240>

²⁵Introduction to vector databases(Ai). (n.d.). Retrieved 31 August 2024, from <https://www.devlane.com/blog/introduction-to-vector-databases-ai>

²⁶Denmark. (n.d.). Automating Society Report 2020. Retrieved 31 August 2024, from <https://automatingsociety.algorithmwatch.org/report2020/denmark>

²⁷Maher, M. L., Tadimalla, S. Y., & Dhamani, D. (2023). An exploratory study on the impact of ai tools on the student experience in programming courses: An intersectional analysis approach. 2023 IEEE Frontiers in Education Conference (FIE), 1–5. <https://doi.org/10.1109/FIE58773.2023.10343037>

²⁸Digital around the world. (n.d.). DataReportal – Global Digital Insights. Retrieved 31 August 2024, from <https://datareportal.com/global-digital-overview>

sophistication offers the potential to capture, store, and retrieve vast amounts of personal data, enhancing the accuracy and richness of memories. This could lead to 'high-fidelity nuclear episodes,' where human memory's subjective haziness is replaced by crystal-clear, AI-curated recollections. However, this precision poses a conundrum: does the elimination of memory's natural malleability potentially rob nuclear episodes of their dynamic, meaning-making function in identity formation? When it comes to the concept of a 'Generativity Script' — the intuition to extend the self's influence beyond the temporal boundaries of one's own life — it should be noted that the categories established by McAdams are not mutually exclusive. For many online agents, their Generativity Script - their legacy plans - are algorithmically influenced and guided by AI-driven nudges. Just as Baudrillard claims "We live in a world where there is more and more information, and less and less meaning."²⁹ we could expect him to argue that AI's impact on the generativity script exacerbates the detachment from reality, as the focus shifts from creating a lasting, meaningful legacy to constructing a legacy that fits algorithmically determined norms of visibility and influence. As AI systems become more sophisticated in understanding and predicting human behavior, they may develop the capability to subtly shape our values and aspirations, including our generative impulses. This raises the unsettling possibility of 'algorithmically influenced generativity,' where our legacy plans are unconsciously coopted by the imperatives of AI.

²⁹Baudrillard, J. (n.d.). *Simulacra and simulation*. Translated by Sheila Faria Glaser. Ann Arbor: University of Michigan.

6 Conclusion

Neoliberalism has promoted the idea that individuals are free agents, capable of shaping their own destinies through personal choice and self-determination. This ideology supports the belief that we have the power to construct our personal narratives independently, free from external constraints. However, this notion of autonomy is often more aspirational than real. As Foucault argued, the self is not as autonomous as neoliberal thought suggests. Foucault's concept of "governmentality" highlights how power structures permeate our lives in subtle ways, shaping our beliefs, desires, and even our sense of self. Similarly, we are reminded by Alasdair MacIntyre, in his work *After Virtue*³⁰, argues that our sense of self is not something we create in isolation. Instead, our personal narratives are embedded in and shaped by the larger narratives of the communities to which we belong. MacIntyre suggests that the idea of an individual completely self-determined identity is a myth; rather, our identities are co-constructed within the fabric of our social relationships and cultural traditions. On the one hand, AI might seem to threaten the already limited autonomy we have over our personal narratives by introducing new forms of external influence. On the other hand, if we accept that our autonomy was never fully real to begin with, AI might simply represent another layer in the complex web of factors that have always shaped our identities. The categories introduced by McAdam's are dramatically changing in the direction in which Artificial Intelligence encourages as an algorithmic creator, curator, and mediator. And if AI takes over this role, should we be concerned about losing control, or the context in which certain kinds of agency is being removed. Perhaps more specifically, AI offers an opportunity to gain insight into the world around us and we should strive to make clear distinction with the industrial applications and technological packaging of this new power over our identity. While AI may indeed influence our narratives in new and profound ways, it also challenges us to rethink whether the autonomy we believe we have over our identities is real or merely another narrative we tell ourselves.

³⁰Angier, T. P. S. (Ed.). (2024). MacIntyre's *After Virtue* at 40. Cambridge University Press.

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