

From Big Brother to Big Data: revisiting Orwell's Nineteen Eighty-Four in the age of Artificial Intelligence (AI)

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Abstract

Nineteen Eighty-Four, George Orwell's fictionalised dystopia, continues to be one of the most powerful literary explorations into surveillance and authoritarianism that have ever been written. While Orwell describes a centralised totalitarian regime that functions through constant surveillance and propaganda, the twenty-first century has seen a more intricate model of digital governance, governance by algorithm, big data and Artificial Intelligence. This paper suggests that today's technological infrastructures have helped make Orwell's vision come true, rather than displace it. Today, that omniscient gaze is embodied in vast networks of government, privately owned technology giants and digital platforms that are constantly gathering, processing, and trading on personal information. Through nineteenth-century narrative techniques, new modes of speech, and a creative use of Cervantesian conceit, Orwell's novel presents a timeless approach to the ethical and political impact of artificial intelligence in the era of surveillance, algorithmic governance, and digital capitalism. The paper also explores the reshaping of the notions of truth, freedom and autonomous choice mediated by predictive algorithms, facial recognition technologies, misinformation and personalised digital ecosystems. In conclusion, Orwell's dystopian imagination provides a valuable critical lens for understanding and assessing the potential downsides and upsides of the information society now increasingly dominated by AI.

Keywords: Artificial Intelligence, Big Data, Digital Governance, Algorithmic Power, Surveillance, Capitalism.

Introduction

No work of fiction has had a wider impact on political imagination than George Orwell's 1984. The novel was released in 1949, just after the end of the Second World War, when Orwell was worried about the appearance of totalitarian ideologies like communism and fascism, propaganda and systematic observation. Written well before the internet, AI, smart phones, or social media, Orwell's dystopian reality has become over the years a major influence on ongoing debates around issues of privacy, digital citizenship, algorithmic governance, and the ethics of technology. The fictional world of Oceania is based on continuous surveillance. Citizens' lives are constantly watched by telescreens, and history is rewritten again and again to uphold political power. Winston Smith lives in

a world that has been edited and altered and in which all notions of truth, reality, and language are subject to constant change. Orwell sets the tone for this setting in the opening pages when he declares ominously, "big brother is watching you" (Orwell 3). This call to arms is not only political propaganda, but it is also the psychological basis for authoritarian rule; vigilance takes place inside oneself, and the subjects take to controlling their own activities, without being directly forced. Today, institutional frameworks of modern digital societies are not like Orwell's dictatorship. Shoshana Zuboff says that "Surveillance capitalism unilaterally claims human experience as free raw material for translation into behavioural data." (Zuboff p.8) The great majority of democratic countries have constitutional freedoms, competitive

elections, and recognise civil liberties. However, technology has given rise to never-before-seen methods of gathering, analysing, and affecting human activity. “Browsing histories are tracked by search engines, smartphones determine geographical shifts, social media capture interpersonal connections, and AI systems constantly make predictions about behaviour based on digital footprint.” But unlike Orwell’s fictional telescreen, such surveillance seems often to be consensual: we readily give up our own information in exchange for services like convenience, amusement and digital customisation. This metamorphosis has led to a reassessment of Orwell’s relevance in the era of Artificial Intelligence. These no longer exist only in government-operated realms but are rather part of a host of interconnected digital ecosystems wherein data is collected by governments, corporations, advertisers, financial institutions, and state agencies, all in one go. From centralized state surveillance to distributed algorithmic governance, one of the central political trends of the twenty-first century is that control is outsourced to algorithms. Control is delegated to algorithms, and a defining political change of the twenty-first century is the transformation of centralised surveillance to distributed algorithmic governance. Thus, Orwell’s dystopia has progressed from the status of literary fiction to a conceptual structure that allows the power of modern technology to be subject to critique.

This paper posits a fundamental change of definition concerning the term “Orwellian surveillance” and the role of

Artificial Intelligence in it. Big Brother is not going away; it is just becoming decentralised, invisible, predictive and data-driven. Current digital infrastructures are shaping individual behaviour increasingly through machine learning, predictive analysis, facial recognition, recommendation algorithms, and automated decision-making systems—without any political compulsion. Overall, the paper sees Nineteen Eighty-Four in a new light as an essential resource for comprehending the moral implications of AI and big data in contemporary democratic contexts.

The whole principle of Orwell’s dystopian state revolves around surveillance. All the institutions in Oceania are set aside to preserve the absolute political authority. The Party’s strength is not just physical; it also psychologically dominates with Observation, a permanent state of being. Orwell’s portrayal of the functioning of the telescreen is very accurate: “The telescreen received and transmitted simultaneously... There was, of course, no way of knowing whether you were being watched at any given moment” (Orwell 5). That’s the super important uncertainty thing. Surveillance is not about being watched all the time, but about the thought that they can be watched anytime. Michel Foucault observes, “He who is subjected to a field of visibility... assumes responsibility for the constraints of power.” (Foucault p.200) Thus, the discipline is internalised, and citizens participate in their own regulation. This mechanism is very similar to later theoretical discussions regarding disciplinary power. The function of authority does not depend on punishment that much, but on the suggestion

for self-instantiation of the subject. Winston knows that "you had to live... in the assumption that every sound you made was overheard, and... every movement scrutinised" (Orwell 5). This, in effect, makes fear an institutional fact which creates very passive fellowships, even in the absence of direct physical violence. In Oceania, the architecture itself is also a mirror of the process of politics' creation of reality. The Ministry of Truth, as its name implies, produces historical lies. They have built upon their confetti slogans a structure which dominates London's landscape: "war is peace freedom is slavery ignorance is strength" (Orwell 7). Ignore the use of ignorance as strength. The Party can redefine language itself through these slogans. Truth is defined by what the political power says is truth, even if it was shown otherwise, and the other is much more likely.

Language stops, then, from pointing at reality, and it starts to be a vehicle for ideological control. While most national governments today would refrain from such blatant manipulation, digital technology is now having a more shadowy impact on people's knowledge production. Recommendation algorithms filter information for primacy and throw out other viewpoints. Safiya Umoja Noble comments that "Algorithms reflect the commercial and political values of those who design them." (Noble p.15), and says further "Search engines are not neutral." (P.1) These personalised search results produce a diversified informational environment, where individuals are exposed to various versions of reality, depending on what their behaviour is likely to

be, according to predictions made by artificial intelligence. What matters is no longer what someone actually says, but what they imply, and that is precisely what the Ministry of Truth used to do in Orwell's day, but with the help of a computer today.

The biggest difference between Orwell's dystopia and today's digital society is the institutional structure of surveillance. Observation is a thing reserved for the government in Nineteen Eighty-Four. All monitoring devices are about fulfilling political goals of the Party. By contrast, most contemporary surveillance systems are often found in private companies that are interested in making a profit, not necessarily conforming with an ideology. Web-based technology platforms capture gigantic amounts of behavioural data on an ongoing basis. Search records, buying habits, biometric identifiers, facial images, social interactions, geographic locality and browsing patterns are turned into valuable economic resources. All these large data sets are turned into predictive models that can forecast a person's tastes, mood and future actions using artificial intelligence. Data is transformed into a product. Zuboff comments, "Prediction products are sold into behavioural futures markets." (Zuboff p.93) The very nature of Orwell's model of surveillance has changed. The citizens of today are not commonly subjected to the force of governments and political pressures to provide information regarding themselves. Digital participation enables voluntary disclosure, however. All web contacts add another piece of data to predictive software that's becoming more and more advanced. Thus, the surveillance is being

"convenient" rather than fearful. This transformation, however, had one vital characteristic that Orwell predicted was necessary to power—and that was knowledge. As they spy on him, it becomes obvious to Winston that information is the basis of political power. Party revolt is not a mere punishment. Party is striving for complete epistemological control, for the control, that is, of all the supplies of knowledge. Artificial Intelligence takes this a step further in that it allows computers to draw certain personal qualities from apparently insignificant behavioral traits. The modern AI is thus not just a sophisticated technological apparatus but a revolutionary epistemological instrument which has the ability to transform any everyday human act into measurable, predictable and economically valuable data. Kate Crawford observes, "AI is fundamentally a system of extraction"(Crawford p.13). Whereas Big Brother used to depend on visible telescreens, today's algorithmic control is often silent, working unseen in the guts of digital technology, inaccessible to most users. Switching from a surveillance state to an artificial intelligence-based digital society has radically changed the way power is used. While Big Brother made use of institutions that everyone could see—the Thought Police, the Ministry of Truth, and the telescreen—modern government relies more on computational systems that are invisible, gathering and processing vast amounts of data, and interpreting what it means. Governments and corporations have been tracking, forecasting and adjusting public opinion using AI as the main tool to monitor populations and

predict their behaviour. Hence, the surveillance is not just an act of observing, but it is predictive, adaptive and algorithmic. "Models are opinions embedded in mathematics." Says Cathy O'Neil (O'Neil p.3). This new system is based on big data. Each click on the Internet, financial transaction, GPS location, biometric scan, social media communication, and digital purchase equates to large amounts of data that artificial intelligence constantly processes. The algorithms of machine learning are used to find behavioural patterns, predict future decisions and classify people based on predicted probabilities. Modern algorithmic governance differs from Orwell's Oceania by not being necessarily aimed at enforcing ideological uniformity, but rather at predicting behaviour. It's not just about understanding what citizens are doing, but what they are likely to do. Orwell did foresee this logic of predictive imperative with the Thought Police, though. They are not so effective after crimes have taken place as they are before dissent becomes political action. Surely even thinking for oneself is considered criminal conduct long before rebellion is set in motion," though it is thinking only when projected outward: "Winston knows that what he is doing is wrong, and that no one but he is doing it; and that, perhaps, he is closer to it than anyone else now living. It is not the public impact of his diary that poses a threat, but his diary of autonomous consciousness. As Orwell states, Winston knew that if he were caught opening the diary, "he would be punished by death, or at least by twenty-five years in a forced-labour camp" (Orwell 10). In the same way, AI

operates on the premise of prediction, not response. Predictive policing systems recognise neighbourhoods that are statistically at high risk of crime. Financial algorithms are used to assess creditworthiness in advance of applying for loans. Recruitment software uses computer-based testing to assess employment candidates, and insurance companies increasingly assess risks that could lead to ill health against behavioural data. These systems are based on probability, not certainty—extending the human being as a series of data points that can be predicted. That's what's happening, and it is not just government institutions, but it is extending Orwell's warning. A modern instance of algorithms impacts the prospects of jobs, education, housing, financial services and medical care. Inference tasks previously performed by human cognition are now regularly implemented in opaque computational models and systems whose reasoning is not accessible even to the designers of the models. Thus, power is not "purely" located in political institutions but is also inscribed in technological infrastructures. A crucial difference relates to visibility. Teselscreen makes it very apparent that it is monitoring. Citizens are aware of their surveillance. When it comes to artificial intelligence, however, we often act unaware of ourselves. Collection of data takes place in silence, using cookies, sensors, mobile apps, clothes, wearables, and digital connections. People are knowingly entering into systems that have a large surveillance function, which is not seen. This is the reason why the current form of algorithmic governance is more relentless than

Orwell's, for the lack of discernment is not threatening, but rather has become accepted. In addition, AI systems continuously self-learn processes to improve themselves. As more interactions take place, predictive accuracy continues to improve, with algorithms becoming more and more sophisticated over time. Surveillance thus is not a static but a dynamic construct, not institutionally determined. Political enforcement was necessary in Big Brother, and emerging artificial intelligence renders the surveillance increasingly efficient in a computational manner.

One of Orwell's most famous works as a political thinker is his awareness that language controls reality. Newspeak is much more than a fake language; it is a tool for the mass indoctrination of a people through narrowing their range of language. If dissent cannot even be expressed in language, political resistance in itself becomes unthinkable over the course of time. This philosophy is still incredibly pertinent in today's digital age. AI has not only revolutionised how information is shared, but also the nature of truth itself, its delivery, and its consumption. Certain sources are preferred by a search engine, information feeds echoing personal tastes, and automatic cleanliness filters delete certain content, while ever more news reports, images, and written communications are generated by generative AI. Reality thus exists through algorithmic processes, rather than through human experience. This transformation is signified by the Ministry of Truth with marvellous foresight. Winston's chief duty is to reword newspapers, making sure that the historical

facts conform to the political line. As Orwell portrays, political control can only be sustained through an ongoing process of altering collective recollections, not outright censorship. Historical facts only exist when officially documented, the Party says. This kind of epistemological manipulation culminates in the Party's paradoxical slogans. The two statements of De Kock are further examples of the political power's dismantling of objective truth by means of linguistic manipulation. Citizens eventually come to believe incompatible propositions at the same time, because language, in itself, has ceased to operate as a tool for logical reasoning. However, artificial intelligence brings similar challenges without overt political pressure, in the form of algorithmic mediation. Personalised recommendation systems generate informational "filter bubbles" that display information to users based on their preferences. Search algorithms select what is made visible; what is not made visible is practically invisible. This means that more people live in individualised realities because of such computational predictions rather than in collective public truths. These issues are compounded by the advent of generative AI, which allows for the creation of massive volumes of synthetic text, images, audio and video. The concept of distinction between actual documentation and fabricated evidence is undermined by deepfakes, automated misinformation campaigns and AI-driven propaganda. Orwell envisioned governments changing the words in newspapers after historical events took place. When it comes to the media truth, artificial intelligence allows

fake stories to get invented at the same time as the actual truth. When you consider the media truth, AI can let a fake story develop at the same time as the truth does. Hence the notional importance of doublethink. Winston thinks about the conflict of demands the Party puts on his mind and realises that logic must become political analogical. AI also creates worlds of conflicting information that coexist at the same time and with no common patterns of validation. Digital users experience several contradictory stories about the same event that are "groomed" according to algorithms. The truth crisis that Orwell linked to authoritarianism prevails a lot more in today's splintered, digital information landscape. Moreover, algorithmic optimisation leaves room for emotional engagement rather than factual accuracy! The more a piece of content causes outrage, fear or strong emotions, the more it is seen, as there is more user engagement. Precisely this political psychology was Orwell's Two Minutes Hate. People in the role of citizens perform rituals in an emotional way, intended to substitute collective passion for rational deliberation. In Two Minutes to Hate, Winston notices that emotions start to have an impact on the ability to think independently. "Because collective rage transformed individuals into participants in ideological spectacle (Orwell 30). Emotional polarization is also intensified on contemporary digital platforms, where algorithms are geared towards generating attention, not fostering democratic discussion. It's so easy to manipulate feelings, as Orwell knew, and AI is doing it to achieve political

advantages that frequently override rational arguments.

AI has greatly extended the reach of its partnership with state security and surveillance. Nowadays, the use of facial recognition technology, biometric identification systems, predictive policing software, automated border controls and behaviour analytics are becoming tools deployed by government to respond to, control and manipulate population. While these technologies offer greater efficiency and public safety, serious ethical concerns have been raised around civil liberties, privacy and democratic accountability. Orwell envisioned a world based on conscious observation and ideological paranoia. The Thought Police investigated facial expressions, body language, private conversations, and written documents. Winston knows that even spontaneous feelings of emotion have the potential to be a political offence. The thinking is expressed in physical behaviour. Such a connection between body and power is similar to that of current biometric monitoring. Facial recognition algorithms convert the physical appearance to measurable digital information. Biometric identifiers such as a fingerprint, iris scan, voice patterns, gait recognition and facial geometry are permanent and become part of vast governmental and corporate databases. Biometric features like fingerprints, facial and body appearance, retina, and iris patterns cannot, in fact, be easily altered if they are compromised, unlike traditional forms of identification documents. These capabilities are significantly improved by AI - with an automated identification system that operates

at an unprecedented scale. Faces can be analysed from millions of people in seconds in transportation systems, public demonstrations, commercial centres and digital platforms. Surveillance, as a result, evolves into an ongoing process as opposed to an event-driven process. This is a kind of development that puts into perspective the conventional understanding of citizenship. Different types of public participation and government observation of public participation are traditional features of democratic societies. The boundaries of these are blurred in an increasing AI-powered surveillance that finds the recording of everyday civic activities amenable to analysis. Political meetings, demonstrations, online discussions, and geographical movements are examples of activities that may lead to algorithmic behavioural profiling. It is hinted at through Orwell's portrayal of Winston's mental state. He now lives with the assumption that none of that exists anymore. Orwell remarks that "you had to live... in the assumption that every sound you made was overheard, and... every movement scrutinised" (Orwell 5). While the present-day democracy is essentially very different to Oceania's dictatorship, the same issues of self-censorship and conformity of behaviour exist because of the presence of omnipresent digital monitoring. AI also helps with automated risk assessments. Predictive systems are intended to forecast criminal acts based on past information, rather than retroactively punishing the act after it has been committed. Although such technologies can streamline administration, they often exacerbate existing social disparities as

machine learning algorithms are susceptible to the biases on which they were trained. These decisions made by seemingly neutral computing can thus be a codified expression of discrimination that one might falsely believe is scientific. Throughout all his works, Orwell emphatically cautions that technological systems are never politically neutral. The purposes of institutions bring meaning to institutions. The telescreen is a communications device in and of itself; the morality consists of the authoritarian mode in which the system functions. Similarly, AI has no political nature. Its impact will rely on legal framework and democratic openness, institutional accountability and ethical design. If left unchecked, AI could make digital societies an environment without boundaries, where the act of watching people becomes a constant, predictive, and mostly insidious way of life – bringing Orwell's dystopian fantasies into the technoscientific present.

Leading many to recall it as a novel about surveillance, *Nineteen Eighty-Four* is, in fact, a novel about the determination to retain humankind's freedom in the face of intolerable technological and political manipulation. In his resistance, Winston Smith doesn't start to revolutionise anything in an organised fashion, merely to think independently. Maintaining a diary, as he does, demonstrates the retention of individual memory in the face of institutional manipulation. Opening the diary, Orwell writes, "for the future, for the unborn" (Orwell 11). This is a statement that truth has greater meaning than just the political moment. It is the same challenge in today's digital landscape. AI is more and more impacting the

areas of education, health services, finance, working life, public administration, journalism and communication. These innovations create an unprecedented opportunity but also pose a threat to notions of privacy and individual autonomy. Information is one of the most valuable economic resources in the world, and AI systems continuously convert common human actions into commercial and political information. But modern, digital surveillance often relies on voluntary participation, whereas in Oceania, surveillance is achieved through the use of state apparatuses that are visible to their subjects. People post pictures or personal opinions, health records, finances, geographic data, and biometric data on digital platforms willingly. Coercion is often substituted by convenience, as the key to the spread of surveillance. This way, many users become entrants participating in systems, performing computing operations, without perceiving them to the maximum extent. Artificial intelligence poses challenges also to the concept of informed consent. Based on an increasing number of patterns, algorithms discover their properties on an ongoing basis, without the user expecting it or being explicitly asked for permission. Digital actions, seemingly trivial, like clicking on a webpage, liking a post on social media or posting from a smartphone, may be significant pieces of information that can result in very complex digital behavior profiling. Thus, people give away much more information than they are aware of releasing. These innovations call for fresh moral thinking. The right to privacy can no longer be thought of just as a

right to protect personal secrecy but rather as a precondition of intellectual freedom, democracy and individual dignity. Orwell shows that with enough surveillance, behaviour will change. Winston must live under a rule of self-control to keep alive, as now everything can have political implications. He remarks that people "lived, from habit that became instinct," believing themselves constantly observed (Orwell 5). One of the most important points in Orwell's internalization of surveillance is still there. Artificial intelligence can send the same sort of signals of self-reliance. People are more likely to change their online behaviour now that they know that digital records can be kept forever by employers, educational institutions, governments, advertisers and digital sites. When Data is Permanent, Personal identity is fundamentally changed. Whereas spoken conversations are fleeting, digital conversations tend to stay searchable forever and can enable Artificial Intelligence to recreate behaviour over many years. Another significant ethical issue is that of algorithmic accountability. As AI systems have become more integrated into decision-making processes, they are now involved in decisions related to employment opportunities, criminal sentencing, financial credit, immigration procedures, medical diagnosis, and educational evaluation. However, many of these computational systems are working as a "black box", and the reasoning behind them even eludes experts. This level of opacity does not agree with the idea that democracy is supposed to be transparent, fair, and publicly accountable. Implicitly, Orwell continually

underscores that what is most perilous is power unexamined. The Ministry of Truth is effective because there isn't actual historical record for citizens to check. In the same way, algorithmic governance is problematic where automated decisions can no longer be questioned, explained or challenged. AI thus requires not only technological innovation but also legal rules that can consistently ensure that fundamental human rights are safeguarded. Resistance can therefore take forms other than those of Winston's individual rebellion and yet can still be of paramount importance in the age of AI. Current approaches to safeguarding intellectual autonomy include digital literacy, algorithmic transparency, data protection laws, ethical AI design, free media reporting, open science and democracy. Societies have not rejected technological progress, but should change their institutions so that innovation continues to be subject to democratic principles. In the end, Orwell acknowledges that "the machine has no inherent moral quality. AI ethics require political decisions on regulation, transparency, accountability, and public involvement. Technology caters to authoritarian power, and hence Big Brother emerged. AI can be a force for strengthening democratic institutions or a force against democracy, depending on the societal values it is programmed with.

Conclusion

Nineteen Eighty-Four remains at the heart of today's debates on surveillance, technological control, and political power, for more than just the historical context of the twentieth century. While Orwell neither

denied that physical violence remains important to political domination, he also knew that the control of information, memory, language and human consciousness loomed as an emerging layer of domination. While he conceived of these processes in the framework of a centralised totalitarian state, the arrival of artificial intelligence has left his thinking just as valid, but now different. The shift from "Big Brother" to "Big Data" represents the evolution in the architecture of power in the Digital age. Modern surveillance is characterised not just by the use of visible technologies to monitor citizens by governments. Artificial intelligence, rather, facilitates the gathering, processing and monetisation of an unprecedented volume of individual data at the hands of corporations, digital platforms, financial institutions and public agencies in a decentralised manner. Surveillance has shifted to be more predictive than just observational — meaning it is more algorithmic than just bureaucratic — and it has shifted to be more computational than just ideological. Luciano Floridi says that "AI should augment human agency, not replace it." (Floridi p.18) Likewise, Orwell's examination of language and truth has become even more relevant in the AI-driven digital information environment. AI-driven tools like recommendation algorithms, tailored news feeds, automated moderation and content systems, generative AI and synthetic media are shaping the perception and interpretation of reality. Algorithms now run the show for informational visibility, credibility, and circulation, in a struggle over truth that Winston Smith now faces within the Ministry

of Truth. However, some key changes have been noted, and there are certain differences between an Orwellian dystopian state and a modern democratic society. AI can also be used to make great contributions in healthcare, scientific research, education, environmental sustainability, transportation, and public administration. The novel by Orwell shall not give birth, thus, to pessimism towards technology, but to critical vigilance. The ethical dilemma is to make sure innovation empowers and doesn't undermine democratic institutions. At the end of the day, Nineteen Eighty-Four is worth reading because it teaches you that you can't get freedom from technological progress alone. Privacy, transparency, accountability, critical thinking and democratic participation are still fundamental means to protect against all kinds of authoritarianism, including political and algorithmic ones. Orwell was thus not just warning of the dangers of surveillance, but also of the ever-present need to safeguard human autonomy in societies that are governed more and more by information. As it is in the age of Artificial Intelligence, Big Brother has become Big Data, but Orwell's core observation is still the same: the centralisation of knowledge without accountability poses threats to freedom.

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