
| RESEARCH ARTICLE

Science-Fiction, Techno-scientific Innovations and Political Power in George Orwell's *Nineteen Eighty-Four*

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| ABSTRACT

This article is a reflection on *Nineteen Eighty-Four*, one of the famous novels by George Orwell, a British writer and journalist. It shows through a techno-critical analysis that, although the novel is science-fiction in that it is part of a dystopian approach to the literary genre, it also inspires and expresses current techno-scientific innovations through the emblematic figure of Big Brother. Moreover, just as Big Brother is the only symbol of the INGSOC, a single political party of which O'Brien is the leader, techno-scientific innovations are more or less embodied by political powers which, if they use them to control people's lives and subject them to their ideologies, can become totalitarian and despotic, even if they were previously democratic. In this logic, they deprive people of their freedoms, especially their freedom of thought and expression.

| KEYWORDS

Science-fiction, innovation, individual liberties, political power.

RESUME

Cet article est une réflexion sur *Nineteen Eighty-Four*, l'un des célèbres romans de George Orwell, l'écrivain et journaliste britannique. Il montre, à travers une analyse techno-critique, que bien que le roman soit une œuvre de science-fiction en ce qu'il s'inscrit dans une approche dystopique du genre littéraire, il inspire et exprime également les innovations techno-scientifiques actuelles à travers la figure emblématique de Big Brother. De plus, tout comme Big Brother est le seul symbole de l'INGSOC, un parti politique unique dont O'Brien est le leader, les innovations techno-scientifiques sont plus ou moins incarnées par des pouvoirs politiques qui, s'ils les utilisent pour contrôler la vie des gens et les soumettre à leurs idéologies, peuvent devenir totalitaires et despotiques, même s'ils étaient auparavant démocratiques. Dans cette logique, ils privent les gens de leurs libertés, notamment de leur liberté de pensée et d'expression.

Mots-clés : science-fiction, innovation, libertés individuelles, pouvoir politique.

| ARTICLE INFORMATION

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1. Introduction

Nineteen Eighty-Four is a science-fiction novel by George Orwell¹, one of the most famous political satires of totalitarianism. Science-fiction, in literature, is a narrative genre that seeks to describe a future state of the world, relying particularly on present science and technology while warning of future advances and their consequences for human beings (Ritchie, 2020). Thus, if *Nineteen Eighty-Four* is a science fiction novel, it can be read as a parable of the typical expression of current

¹ George Orwell, whose real name was Eric Blair, was born in 1903 and died in 1950. His experience as a journalist and writer gave him a disgust with British imperialism, which seems to have had an impact on his criticism of the totalitarian tendencies of administrative systems

techno-scientific innovations but also of modern political powers (Easton & Dial, 2010; Bounds, 2009). This parable is embodied by the emblematic figure of Big Brother, who is the omnipresent leader of the single party personified by O'Brien. In fact, the party called INGSOC² (Orwell, 2004) is represented by Big Brother, who is the reflection of both the modern techno-scientific innovations and the embodiment of political powers. The latter suppresses the freedoms of individuals when they use techno-scientific systems to control people's daily lives. This is the case of Winston Smith, an employee of the Ministry of Truth in Oceania, whom O'Brien, who is, in reality, the physical leader of the INGSOC, the very brain of the party, has managed to gradually strip of all personality in order to keep him under the political power of his party.

For techno-critics, G. Orwell's *Nineteen Eighty-Four* raises the problem of the relationship between science-fiction, techno-scientific innovations, and political power. This relationship can be understood in triadic terms: techno-scientific innovations feed on science-fiction and are expressed through it. According to L. J. Terlizese (2020), techno-criticism is not opposing the use of technology since "We cannot live without technology any more than we can breathe without lungs" (12). It rather reminds technologists that they promise liberation but actually deliver enslavement. Thus, a techno-critical analysis does neither promote technophobia nor condemn technophilia. As such, it shows the benefits of techno-scientific innovations without overlooking their abusive use.

In addition, techno-critics move along with science-fiction "to make the readers think – to make them see possible futures, and ponder their consequences" (Easton & Dial 2010, xviii). They denounce dehumanizing eugenic practices (Black, 2012) and show how fraud, bias, and negligence undermine the search for truth (Ritchie, 2020). They also show how capitalists and authoritarian political regimes use techno-sciences to control governments and deprive citizens of their rights and freedom (Berenson, 2021).

In light of a techno-critical approach, this paper discusses the relationship between Orwellian science-fiction and techno-scientific innovations. It then shows that modern techno-scientific innovations, which find their embodiment in the figure of Big Brother in *Nineteen Eighty-Four*, increasingly appear as devices that serve political powers. In a sense, the paper demonstrates that any political power that makes unrestricted use of techno-scientific systems can become a despotic regime that deprives individuals of their freedom.

2. Techno-scientific Innovations in Orwellian Science-fiction

It is obvious today that there is an intrinsic relationship between science-fiction and techno-scientific innovations. If the latter is inspired and nourished by the former, it is also through science-fiction that technologies are expressed to the layman. Science-fiction is a creative imagination that proposes to describe stories about techno-scientific progress in a more or less distant future. It is a narrative genre that takes shape in various forms and which seeks to describe a future state of the world based precisely on current science and technology while anticipating their future progress and their consequences for human beings (Millet & Labbe, 2011). For Easton & Dial (2010), science-fiction can be seen as an intellectual prophecy whereby:

We look at the world about us and try to extrapolate current trends into future developments, and because we know the tricks of the trade, we are often able to come up with some very interesting speculations that now and then turn out to be surprisingly accurate anticipations of things to come. (ix)

Thus, any science-fiction novel fits, at least, into the following two main literary approaches: the utopian and the dystopian approach. While the former evokes an optimistic idea of the world's destiny, the latter indeed offers a pessimistic vision of the world.

The utopian approach in literature describes a place that does not exist anywhere and has ideal characteristics. Examples are Plato's (2004) and Thomas More's (2011) ideal cities. It is, therefore, a question of describing a place imagined as perfect, of carrying out a narrative reflection on such a society that could serve as a model and make it possible to improve the decent living conditions of individuals (Elias, 2014). In contrast, the dystopian approach consists of depicting, in narrative form, the dangers of an ideology in a given or imagined society (Bazin, 2019). This is how this approach expresses a pessimistic vision of the world, unlike the utopian approach. In contrast to utopia, dystopia warns, above all, against ideals whose consequences could be catastrophic, particularly for human integrity and freedom.

It should be noted that the first use of the term 'dystopia' is historically attributed to John Stuart Mill in a speech he gave in the British Parliament in 1868. Thus, in dystopia, the utopian project is presented as realized: good laws are applied, and

² It is a thinly disguised acronym for English socialism and translates as INGSOC

everyone is supposed to be happy. In practical terms, the dystopian approach presents a nightmarish vision of the world to show what chaos we might be plunged into. It depicts an imaginary world organized in such a way that it is impossible to escape. In such a world, rulers are likely to exercise total and unrestricted authority over individuals. In short, the dystopian approach can also be seen as a utopian approach turned into a nightmare. In this sense, it is still called a counter-utopian approach. G. Orwell's *Nineteen Eighty-Four* is part of this approach.

In *Nineteen Eighty-Four*, George Orwell tells the story of a nightmarish future that should take place in 1984. A short summary of the novel runs: the year is 1984. Winston is an employee of the Ministry of Truth. It should be noted that there are four ministries in this one-party government:

The Ministry of Truth concerned itself with news, entertainment, education, and the fine arts. The Ministry of Peace, which concerned itself with war. The ministry of love, which maintained law and order. And The Ministry of Plenty, which was responsible for economic affairs. Their names are in Newspeak: Minitrue, Minipax, Miniluv, and Miniplenty. (8)

Winston, as an employee of Minitrux, has doubts about his past and about the history told by the ruling Party. Distressed that his fellow citizens believe all the Party's lies, he chooses to live in his own world, with the goal of bringing about a political revolution, a resistance, that can lead to change. But the country is under constant surveillance by the police and telescreens.

Winston cannot bear the weight of such a society. He tries, in hiding, to express his concerns in a diary, aware of the risk of being 'vaporized' by the police if he is caught. Julia, a colleague whom Winston distrusts, meets him several times and finally confesses her love for him. Winston, who no longer knows what has happened to his wife, accepts the relationship with Julia. They meet in hiding places indicated by Julia to satisfy their sexual appetites, something the Party strictly condemns. Julia, very experienced in having had relationships with several Party members, knows how to fool the surveillance to see Winston. They fall in love and rent a room at the home of a proletarian antique dealer, Mr. Charrington, where they can avoid the telescreens posted everywhere with this writing: "BIG BROTHER IS WATCHING YOU" (6), a slogan with a double meaning: in the explicit sense, protection, and in the implicit sense, perpetual surveillance.

Knowing that his relationship with Julia cannot last long, Winston is desperate to find out if Goldstein, a secret organization to overthrow the state, really exists. He turns to a colleague, O'Brien, whose behavior he trusts. Julia and Winston go to O'Brien's house together and tell him of their desire to change the world they live in. O'Brien confirms that Goldstein exists and that he himself is a member of this secret organization. He asks them several questions to find out how motivated they are. Julia and Winston answer that they are willing to do anything for this cause. O'Brien gives them the book written by Goldstein, which contains new information about the upcoming operations. Winston receives Goldstein's book and reads it alone while in his room, then reads parts of it to Julia.

Unfortunately, Julia and Winston are arrested by the police. Winston is taken to another place where he is tortured horribly. He discovers that the leader of the Party, if not one of its brains, is O'Brien, in whom he has put his trust. O'Brien then brainwashes him until he finally breaks down, despite his strong moral resistance. So disoriented, Winston admires O'Brien, who nevertheless puts him through hell. When he emerges from this torture, he re-enters the world, now convinced that he loves Big Brother.

From this Orwellian science-fiction, 'Big Brother, according to M. Dice (2011), is today the source and expression of modern techno-scientific innovations. The concept of innovation, although polysemous, can be understood as the fact of introducing something new into a situation. In this respect, we speak of scientific, economic, legal, educational, or cultural innovation. Thus, to innovate is to respond "to the need or the world of needs" (Akakpo, 72). In other words, innovation refers to the notion of novelty, to the unprecedented. And it is in this perspective that we speak of techno-scientific innovations, that is, the fact of introducing something new into the spheres of techno-sciences. According to Bruno Latour (2003), any innovation always appears as "an experiment in which human and material means are exchanged for information about the states of the world" (14).

Today, engineers and scientists are developing innovative projects that seem to fulfill futuristic science-fiction stories as described in G. Orwell's *Nineteen Eighty-Four*. Actually, most experts are aware that innovation and creativity are influenced by a technical imagination that is increasingly formatted to satisfy the demands of companies wishing to offer consumers products dreamt up by science-fiction authors. Several techno-scientific companies even claim from time to time the influence of science-fiction on their activity. G. Orwell's *Nineteen Eighty-Four* inspires many of today's techno-scientific concerns, including both the image of Big Brother and his telescreens and the all-powerful ruling elites embodied by

O'Brien to rule and oppress the world's population.

Indeed, Big Brother appears as a fictional nightmare for the people of Oceania. Such a nightmare is no longer a symbol of Orwellian science-fiction but is gradually becoming a reality. Today, the techno-scientific innovations that exist or are being developed and will exist in the near future find their inspiration and expression through this image of Big Brother and threaten to make the world more and more horrible, even worse than the Orwellian Oceania. In fact, Big Brother is a reflection, if not a mirror, of modern technological innovations. And this is explicitly demonstrated by Mark Dice (2011) in *Big Brother. The Orwellian Nightmare Come True*. And it must be added that these modern technological innovations are now conceived as tools of modern political powers.

3. Big Brother's Techno-scientific Innovations and Modern Political Powers

G. Orwell's writings have shed light on the role played by science-fiction in techno-scientific innovations. Like many science-fiction novels, *Nineteen Eighty-Four* helps to anticipate techno-scientific achievements that are now real. Indeed, it contributes to bringing the real world into the techno-scientific age. Moreover, it serves in advance to popularise lesser-known scientific theories while implicitly reminding us of the positive and negative consequences of techno-scientific progress. As a techno-critic, M. Dice (2011) exposed techno-scientific firms that are available to the great experts in the Orwellian sense and that are invading human society in a disturbing way. His writing has examined precisely the realities of government programs and policies on techno-scientific systems straight out of the dark imagination of G. Orwell.

In any case, if modern techno-scientific innovations are inspired by the Orwellian imagination, they remain instruments of deterrence, like Big Brother, in the modern political powers, mainly because they are the ones who finance them so that they can have absolute control of their world. Some of these leaders can secretly or openly pay media to access the wider public and propagandize the intentionally fabricated statistics of their cynical prowess without resorting to torture as O'Brien does on Winston. These political institutions want their citizens to believe in O'Brien's way that two plus two makes five: "two and two make five" (283). In other words, "anything could be true. the so-called laws of Nature were nonsense. The law of gravity was nonsense" (284). Thus, they design techno-industrial, techno-scientific and military establishments to illegally spy on and smear political activists who are considered suspicious.

However, techno-scientific innovations remain valuable tools that can benefit any morally good use, though they can become extremely harmful depending on the intentions of the person who designs or uses them. Indeed, they offer incredible artifacts that appear supernatural to earlier civilizations. Mobile phones, for instance, allow people to call and interact with their loved ones regardless of their geographical location. Today people can travel around the world without having to move away from their homes; they can watch virtually all the artistic, cultural, and sporting events that they wish to see to the ends of the earth, live or recorded, through television, the Internet, DVD recorders, YouTube, Excel spreadsheets, Google, Apple, Yahoo, Facebook, Telegram, TikTok, WhatsApp, etc. The music and film industries have certainly not anticipated the fact that millions of internet users can download music and films for free, sometimes before they are even officially released. Likewise, when Albert Einstein (1879-1955) was searching for the laws of physics to understand the Universe, he could never have imagined that his work would be used to design weapons capable of destroying the entire earth. All this is to say that Orwell's *Nineteen Eighty-Four* is not technophobic but rather denounces the colonizing consequences of techno-scientific innovations (Reilly, 1986).

In relation to the above statements, Y. Akakpo (2016) argues in this sense that techno-scientific innovations colonize us, not in the traditional logic of colonization, but rather through the invasion of their goods and services into our physical, psychological, and spiritual world. This techno-scientific colonization or techno-colonialism "feeds the vocation of the allied powers, which economics and politics have become, in place of religion and politics, to colonize society and nations" (Akakpo, 22). He then goes further to write:

Information and communication technologies, telephony, and the automobile industry are some illustrations of this global tendency of contemporary technology to generate goods that exert strong psychological pressure on man. What creates in the consumer, even the most deprived one, the ardent desire, and the means to remain forever connected to the system or network of *high tech* is the continuous and accelerated performance of technological innovation. (26)

In this way, techno-scientific innovations introduce profound changes into our social life, penetrating our daily life to the point where our natural human condition is constituted by the artificial world. They take shape in our world as powerful structures that create in us psychological dependence, similar to that experienced by the alcoholic or the drug addict.

Unfortunately, a return to an unaltered state of nature would be, as Evandro Agazzi puts it, “nothing more than an illusion or, at best, an escape that can be enjoyed during a brief holiday” (26). In other words, the consciousness produced by techno-scientific innovations, like “Big Brother watching you”, becomes all the more real and obvious that we can no longer deny or escape. Even our inner world, according to E. Agazzi, has been changed by science and technology:

Science and technology have changed our inner world, making us see things in a different way, accustoming us to new world views, imposing on us new interpersonal relationships and new social hierarchies, creating in us new personal needs and expectations, new ethical problems, and situations, and in general new opportunities, but also difficulties of all kinds. (26)

Indeed, M. Dice shows, in line with the above passage, that there are techno-scientific systems all over the world which, although some are designed to make our lives easier, become, like Big Brother in *Nineteen Eighty-Four*, instruments for observing and spying on people in their public and private lives. The camera on the mobile phone, which interests teenagers for photo shooting, can be used to spy on them privately.

The telescreen in G. Orwell's imagined world of 1984 took tangible shapes when M. Dice (2011) noted that in 2010 there were already around 10,000 surveillance cameras in the city of London feeding into their central system, most of which are clearly visible security cameras. And it is underscored that the UK government was planning to spend hundreds of millions of dollars to install more surveillance cameras in people's homes to ensure that parents are taking good care of their children:

The UK government actually spent \$700 million dollars to install surveillance cameras inside the homes of citizens to monitor whether their children attend school, eat proper meals, and go to bed on time. It's part of a government program called "Family Intervention Projects," which also includes social workers making regular visits to see if parents are raising their children properly (Dice, 11).

M. Dice's (2011) research revealed that the “Big Brother that watches you” in the Orwellian fantasy world has now been transformed into surveillance cameras, Global Positioning Systems (GPS), Radio Frequency Identification Device (RFID), Mind-Reading Machines, Neural Interfaces, and Psychotronic Weapons. For him, surveillance cameras are now common in banks, department stores, private or public service stations and government buildings, large shops, and personal homes, certainly to prevent shoplifting and burglary or to identify those who commit crimes. These techno-scientific innovations are used to wage wars which L. Alexandre (2017) called the war between Artificial Intelligence and Human Intelligence. As a result, people are not even aware of their presence and hardly think that they exist and are watching them as Big Brother does. In fact, while the most adamant advocate would admit that such systems help prevent shoplifting and arrest thieves, it must also be admitted that these cameras are akin to a high-tech surveillance grid almost identical to the Big Brother's system described in *Nineteen Eighty-Four*.

Besides, in technologically sophisticated countries, there are facial recognition cameras that have become popular, with standard functionality in surveillance systems (Kostka et al., 2020; Zhaohui et al., 2022). These surveillance systems dot public streets, listening for and detecting “hostile” speech, which they automatically send to the police to investigate. They work exactly, if not more, like the telescreen in G. Orwell's *Nineteen Eighty-Four* as can be usefully read:

The telescreen received and transmitted simultaneously. Any sound that Winston made, above the level of a very low whisper, would be picked up by it; moreover, so long as he remained within the field of vision which the metal plaque commanded, he could be seen as well as heard. There was, of course, no way of knowing whether you were being watched at any given moment. How often, or on what system, the Thought Police plugged in on any individual wire was guesswork. It was even conceivable that they watched everybody all the time. But at any rate, they could plug in your wire whenever they wanted to. You had to live—did live, from habit that became instinct—in the assumption that every sound you made was overheard and, except in darkness, every movement scrutinized. (6-7)

M. Dice claims that there are even Orwellian government programs in England and the United States that have used and continue to use techno-scientific systems in an underhanded and sometimes illegal manner to sabotage, smear, intimidate, blackmail, or even coldly murder individuals who pose a threat to their Party for the sole purpose of keeping the ruling elite in power. He writes:

While the "alphabet agencies" (CIA, NSA, FBI, ATF, etc.) have access to incredible Big Brother technology and countless commercial and government databases, there are also creepy Orwellian projects that have been secretly created and funded by elements within the government for the purpose of maintaining the power of the ruling elite. (150)

It is clear that, like Big Brother, there are techno-scientific systems inspired by Orwellian science-fiction and others designed exclusively and above all to maintain modern political powers, as O'Brien does with Big Brother. In a sense, the use of techno-scientific innovations in Oceania, the imagined State, deprives individuals of their freedoms.

4. Conclusion

Nineteen Eighty-Four by G. Orwell is a science-fiction novel that is part of a dystopian approach to the literary genre. Like most science fiction novels, it has contributed to the techno-scientific achievements of the time. It is also seen as one of the literary tools that have helped popularise techno-scientific theories. However, *Nineteen Eighty-Four* implicitly reminds its readers of the positive and negative consequences of the use of techno-scientific systems.

The paper has shown that the imaginary figure of Big Brother, embodied in the person of O'Brien, is increasingly apparent today through modern techno-scientific systems such as surveillance cameras, GPS, ICTs, etc. Therefore, when using these systems to control people's lives, political powers most often deprive individuals of their freedoms, especially their freedoms of thought and expression. Thus, Orwell's *Nineteen Eighty-Four* is merely an expression of a possible condition for avoiding the establishment of any tutelary political regime, however democratic, that might infantilize individuals. This essential condition consists in defending the freedoms of individuals. Such a defence can only make sense on the condition that it allows the expression of difference and does not condemn repetition, that is, moral uniformity. But how can differences be expressed in the face of the techno-scientific systems that colonize individuals on a daily basis?

This study does not cover the ethical aspect of techno-scientific innovations in *Nineteen Eighty-Four*. Further research can focus on ethics that are appropriate for a technological civilisation. It can, therefore, examine the extent to which techno-scientific innovations (Big Brother's telescreens and cameras) destroy human dignity and their right to privacy.

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