Science as a Defense against Totalitarianism in George Orwell’s 1984

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Abstract

The twentieth century not only saw a dramatic increase in dystopian accounts of science and technology, it also saw a resurgence of utopian depictions of science and technology, even if the former are better known today than the latter. A very good example of the former is Aldous Huxley’s Brave New World, while an example of the latter is Hugo Gernsback’s novel Ralph 124C 41+ (1925). In this novel and the enormously popular magazine Amazing Stories Gernsback found in 1926, we find a glorification of the scientist and the role he will play in bringing about a utopian future. But these are not the only stances that are taken on science and technology in the twentieth century. George Orwell offers a third interpretation of the role of science and technology. In Nineteen Eighty-four, he portrays science as the main line of defense against totalitarianism. For Orwell this is summed up in the equation 2+2=4. Not surprisingly, all efforts of the Party are devoted to making people believe that 2+2=5; ultimately through torture. If the Party can manipulate reality and people’s minds they can achieve absolute power. To be sure, Orwell describes negative uses of technology, but this is not because technology is bad in itself, but because of the uses to which the totalitarian regime puts it. Despite the pessimistic ending of the novel, with the main character Winston Smith acknowledging his love for Big Brother, Orwell holds that a totalitarian regime can not last forever, simply because 2+2 cannot equal 5. Any attempt to establish a society based on this illogical premise is bound to fail. By refusing to observe the basic laws of science the totalitarian system falls apart.

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he 20th century contained two very different views regarding science and technology. On the one hand, there was the utopian view that saw science and technology ushering in a fantastic world of the future where life would become infinitely better due to an ever-increasing number of scientific and technological gadgets and inventions. Burdensome tasks would be abolished and leisure would become widespread. Poverty would be abolished and the good life would be enjoyed by all. This is the vision of the future we find in the writings of Hugo Gernsback and the authors he encouraged to write for *Amazing Stories*, the science fiction magazine he launched in 1926. Gernsback is regarded as the father of modern science fiction and is the person after whom the prestigious “Hugo” awards in science fiction are named. He was born in Luxembourg in 1884 and immigrated to the US in 1904, where he started a number of different magazines which were devoted to promoting his optimistic view of a highly advanced, technological future. These magazines included not only science fiction ones such as *Amazing Stories* but also popular science magazines such as *Gadget* and *Modern Electrics*. His only novel, *Ralph 124C 41+*, which was published in 1925, was first serialized in 1911 in *Modern Electrics*.

In the novel, which takes place in the year 2660, the hero, Ralph 124C 41+, a scientist (whose name we learn at the end of the novel stands for ‘Ralph, one-to-foresee-for-one’; the + denoting that he is one of the top ten scientists in the world) saves the heroine from the clutches of not one but two villains while at the same time explaining to the reader how science and technology have made the world into a technological paradise. The critic, Sam Moskowitz, lists a number of successful predictions Gernsback made in his novel, including “fluorescent lighting, skywriting, automatic packaging materials, plastics, the radio direction finder, juke boxes, liquid fertilizer, hydroponics, tape recorders, rustproof steel, loud speakers” (qtd. in Williamson, viii) and night baseball, to mention just a few. Both transcontinental and space travel are commonplace and solar energy has been put into practical use.

However, Gernsback’s positive view of technology was not the only one in the twentieth century. There was a more dystopian view as well, represented by such works as Yevgeny Zamyatin’s *We* (1921) and Aldous Huxley’s *Brave New World* (1932). Zamyatin’s novel describes science and technology in the service of a future, totalitarian society. Huxley’s novel describes a future where science and technology has become more a threat to humanity, than a promise of a better life. People are born in test tubes. The nuclear family no longer exists. People no longer take responsibility; instead they are happily ‘amusing themselves to death’, to borrow an apt phrase from Neil Postman’s critique of the media in *Amusing Ourselves to Death* (1985). Meaningless games are developed, such as obstacle golf, that give people the illusion they are actually doing something in their spare time. Various forms of escapism are provided for the inhabitants, the ultimate one being the designer drug, soma. Material wealth has been created but at the expense of freedom and the ability to experience human feelings.

George Orwell’s dystopian novel, *Nineteen Eighty-four* (1949), is quite often included in the same category as the ‘anti-science and
technology’ writers of the 20th century, such as Zamyatin and Huxley. To be sure, just as in Zamyatin’s We, in Nineteen Eighty-four, the Party uses science and technology to control its inhabitants, for example, through the ever-present telescreens and hidden listening devices. However, this is not because of an intrinsic fault of science and technology but because the Party chooses to use science and technology this way. One can perhaps also see an implied criticism of what Orwell rightly or wrongly held to be the Wellsian utopia celebrating science and technology in the remarks in Goldstein’s book about “The vision of a future society unbelievably rich. Leisured, orderly and efficient – a glittering antiseptic world of glass and snow-white concrete” (196). However if we only see Orwell’s novel as a criticism of science and technology, we fail to see the positive role he gives empirical science as being the last line of defense against totalitarianism.

Orwell’s faith in empirical science is summed up in the equation 2 + 2 = 4, which is referred to repeatedly throughout Nineteen Eighty-four. Early in the story, Winston writes in his diary, “Freedom is the freedom to say that two plus two make four. If that is granted, all else follows” (84). At the same time, he also realizes that the Party cannot permit this. In a passage that ominously anticipates his torture towards the end of the book, Winston states:

In the end the Party would announce that two and two made five, and you would have to believe it. It was inevitable that they should make that claim sooner or later: the logic of their position demanded it. Not merely the validity of experience, but the very experience of external reality, was tacitly denied by their philosophy. The heresy of heresies was common sense. And what was terrifying was not that they could kill you for thinking otherwise, but that they might be right. For after all, how do we know that two and two make four? Or that the force of gravity works? Or that the past is unchangeable? If both the past and the external world exist only in the mind, and if the mind itself is controllable – what then? (83-84).

This uncertainty about the existence of external reality is what the Party wants to instill in the inhabitants of Oceania. However, Winston argues against this: “And yet he was right! They were wrong and he was right. The obvious, the silly and the true had got to be defended. Truisms are true, hold on to that. The solid world exists, its laws do not change. Stones are hard, water is wet, objects unsupported fall towards the earth’s centre” (84). Thus, physical reality stands in opposition to the Party.

Since external reality is the sworn enemy of the Party, the Party tries in various ways to stop people from believing in it. One way the Party tries to do this is by continually changing the past. The Party falsifies anything in order to maintain its power. News accounts, pictures, and statistics, all are manipulated to serve the ends of the Party. Targets, quotas and production figures are constantly changed in order to enhance the image of the Party. Furthermore, there are no correct, original figures. As Winston states, “Statistics [are] just as much a fantasy in their original version as in their rectified version” (43). The Party tries to destroy any evidence of there being an external reality beyond their control. That is why the photograph that
Winston briefly holds of the loyal Party members who are now accused of being traitors is so important. For once, Winston has tangible evidence that the Party is lying, but he has to dispose of this evidence in order not to be ‘vaporized’ himself. Once the photograph is destroyed, it disappears from the material world, enters the uncertain world of individual memory and becomes subject to the Party’s ongoing manipulation of reality.

Another form of reality control is doublethink, which enables a person to hold two contradictory opinions simultaneously and accept them both. For example, doublethink allows a person to tell deliberate lies while at the same time genuinely believing they are true. It makes it possible for a person, when required, to forget any inconvenient fact, and then, when necessary retrieve it and use it for the good of the Party. It makes it possible to deny the existence of objective reality, while at the same time being fully aware that such a reality exists.

The ultimate goal of the Party, not surprisingly, is to do away with science altogether. The way this will be done will be through the complete implementation of Newspeak, the language designed by the Party to prevent people from ever forming heretical thoughts, let alone expressing them. This is done by creating an entirely new vocabulary where any potentially dangerous concepts are weeded out of the language. In the worldview of the Party, if a word for a concept does not exist, for example, freedom, then the concept itself ceases to exist. In Newspeak there will be no word for “Science”, only specific scientific or technical terms of a practical nature. Science either as “a habit of mind or method of thought” will be abolished (323).

Even if the Party wants to get rid of science as a method of thinking, it still uses science and technology in strictly controlled situations. The only purposes science and technology can be used for are to make better military weapons and to improve police espionage. It would seem there is considerable activity in both these fields. According to O’Brien the Party has “vast laboratories” in the Ministry of Peace and “experimental stations hidden in the Brazilian forests, or in the Australia desert, or in the lost islands of the Antarctic” (202). Focusing all scientific effort on war and espionage, of course, has changed the role of the scientist. As O’Brien says, “The scientist of today is either a mixture of psychologist and inquisitor … or he is a chemist, physicist or biologist” making different kinds of weapons. O’Brien lists what these scientists and technicians are doing: developing “larger and larger rockets”, “more and more powerful explosives”, “new and deadlier gases” and poisons that will destroy “the vegetation of whole continents”. Even more fantastic inventions are being dreamt up, including a vehicle that bores underground, a method for focusing the sun’s rays and attempts to produce artificial earthquakes (202).

Ironically, much of this scientific activity is not necessary. It seems that producing increasingly extravagant weapons in far-flung, secret laboratories is allowed only because it provides a release for the creative energies of the scientists and technicians involved. According to O’Brien, most of these activities constitute “a kind of daydreaming”. Neither does efficiency seem to be important in these scientific undertakings. As O’Brien
explains, “Efficiency, even military efficiency, is no longer needed. Nothing in Oceania is efficient except the Thought Police” (206). Nor does it seem that technologically advanced weapons are needed to fight the continual war that is allegedly going on between Oceania, Eurasia and Eastasia. This can be done just as well by using conventional weapons. In addition, as O’Brien points out, the Party already has the A bomb, which is considered a sufficient military deterrent, should one of the two other sides in this ongoing war decide that it wanted a total military victory.

The fact that the Party only uses science and technology for destructive purposes does not mean that it is unaware that science and technology can be used for peaceful, or constructive, purposes as well. According to Goldstein’s book, the Party recognized early on that science and technology could be used to improve living standards for the majority of the people. However, they rejected this alternative because doing so would threaten their hold on power. The problem was, seen from the perspective of the Party, that, “In a world in which everyone worked short hours, had enough to eat, lived in a house with a bathroom and a refrigerator, and possessed a motor-car or even an aeroplane, the most obvious and perhaps the most important form of inequality would already had disappeared” (197). This would have prevented the creation of a strict hierarchy; something the Party saw as absolutely essential to create and maintain its power.

There were economic reasons for doing this as well. As is also explained in Goldstein’s book, the idea was not to create one of the “stupid hedonist Utopias” (279) envisioned by utopian dreamers of the past, but a dystopia of austerity which would keep people in subjection. In order to prevent the people from having a comfortable standard of living, an economic system was devised wherein goods were produced but not distributed. The only way this could be done was through continual war, which would use up the economic surplus. Of course temples and other symbols of power could have been built to the same end, but these could have become a source of envy and hostility, which would have then been directed against the regime. Through a state of artificially induced continual war, no one knows that the surplus is being used up and the Party emerges as the sole protector of the people, symbolized by Big Brother. It is a win, win, situation – for the Party.

Not only does the Party think it can control science and technology, it also thinks it can control the Laws of Nature. According to O’Brien, there is nothing the Party cannot do. If it wants to make people invisible, it can do so. If it wants to make people levitate, it can do that too. According to O’Brien, the Party is not subject to the Laws of Nature. Instead, as he says, “We make the laws of Nature” (277). However, just as with science and technology, the Party permits the Laws of Nature to operate when doing so is advantageous for them. Thus as O’Brien explains, “When we navigate the ocean, or when we predict an eclipse, we often find it convenient to assume that the earth goes around the sun and that the stars are millions and millions of kilometers away” (278). Otherwise, as he says, it is just as useful, or perhaps more so, to see the stars as “bits of fire a few kilometers away” (278), since this enables the Party to control people’s minds.
Although various methods are used to change the past and distort external reality, ultimately the only way of doing this is by torture. The purpose of the torture that takes place in Room 101 is to both deprive Winston of his sense of humanity, by forcing him to betray Julia, but also, and perhaps more importantly to get him to accept that the Party can change external reality. Forcing Winston to see five fingers instead of four, however fleetingly, is seen as a victory, not only over Winston as an individual, but the belief in general that there is an external world that exists beyond the control of the Party.

But is the Party victorious? They have broken the will of one man, but have they achieved their main aim, which is to change the external world? The premise for the Party's hoped-for, final victory is that there is nothing outside of consciousness. The external world exists only so far as there is a conception of it in a person's mind. Change that conception, the Party argues, and you change the external world. As O'Brien explains to Winston, “Power over matter - external reality, as you call it - is not important” (277). The only important thing is to control what happens in the individual's mind. But the external world has not changed as a result of Winston's torture; only his perception of it. And even though this is enough for the Party, one has to wonder if the Party has not fallen victim to its own megalomania. The Party thinks it can alter empirical reality by changing people's minds. But it can only do so as long as it has a monopoly on power. When the power structure of the Party starts to breaks down, and Goldstein's book mentions several ways in which this can occur, then the Party will no longer be able to impose its vision of reality on the outside world. When this happens, external reality will re-emerge as the proper arena of human action, common sense will no longer be a heresy, and life as it is actually lived will replace the delusional visions of the totalitarian regime.

Works cited
