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The future of control/The control of the future: Global (dis)order and the weaponisation of everywhere in 2074

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Abstract

In this article, I am going to suggest that questions of societal and political control will be fundamental to the challenges humanity faces in the next 50 years, a continuation of the political and social problems of modernity but playing out in a range of political contexts and with a range of technological 'tools'. Technicians of security will attempt to manage the disorder and insecurity that results from the potential weaponisation of everything, to use a phrase from Mark Galeotti, and the weaponisation of everywhere, a condition where the state will be seeking to control a range of emerging terrains and domains. But at the same time, while societies in 2074 might be confronting conditions that are an intensification of modern political problems, there is the possibility that the impact of climate emergencies and other ecological/technological dangers might produce global disorder unlike anything experienced in modernity, radically transforming (or mutilating) the 'material' foundations of international politics, presenting us with problems unlike anything encountered before. At this point, as Bruno Latour suggested, we might have to depart (for our own survival and the survival of others) from the ideas about politics and economy that we have 'inherited' from modernity.

While we do not yet have the Artificial Intelligence (AI) tools or *Minority Report*-type humans for predicting the future of international politics, we do have a range of techniques for exploring possible futures, from the more quantitative techniques for the near future through to the more creative and speculative tools for the longer term.[1] There is 'futures work' going on around the planet constantly, produced by a variety of actors and for a variety of ends (and at a variety of timescales). This special issue of *Review of International Studies* most likely reflects a contemporary anxiety in a time where the 'end of history' has been replaced by the *multiplication* of history and possible futures – and the possibility of futures that are far more unsettling than you might find in many corporate or governmental depictions of the future.

In terms of the time frame of this special issue, there are many different projects that explore trends in global politics in the 21st century; *AI 2041: Ten Visions for Our Future* explores the potential impact of AI on society; *The 2084 Report: A History of Global Warming from the Future* explores the impact of climate emergency on international politics; *Iraq + 100: Stories from a Century after*

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[1]Nick Montfort, *The Future* (Cambridge, MA: MIT Press, 2017); Francis Fukuyama (ed.), *Blindside: How to Anticipate Forcing Events and Wild Cards in Global Politics* (Washington, DC: Brooking Institution Press, 2007). For a wide-ranging introduction to work on the future of war and international politics, see Artur Gruszczak and Sebastian Kaempf, *Routledge Handbook of the Future of Warfare* (London: Routledge, 2023).

the Invasion explores a range of possible futures, using a variety of literary styles and techniques, for Iraqi society in 2103.[2]

There are also works that ask more fundamental questions about our contemporary sense of unease about the future, on the possibility that we are – as Franco Beradi suggests – now *after the future*.[3] This contemporary interest in futures is possibly driven by the radical and wide-ranging implications of a world that will be dealing with both AI and climate emergencies in the context of an international politics and economy that is likely to be unlike anything human societies have encountered before – and the awareness that the world is often transformed by the events and trends that we do not see coming, the 'black swans' of security, war, and technology.[4]

Popular culture, of course, is filled with dystopian and apocalyptic stories of AI disasters and/or climate emergencies set in the decades ahead: Gareth Edwards's *The Creator* (2023) depicts the world in 2070 where World War III has been declared but US politicians tell the public that the war on 'New Asia' is only targeting the *mechanical* part of the population (in times where humans live among robots and 'simulants', AI robots that look similar to humans). *The Creator* depicts a world where anxiety over AI has resulted in a future of technological divergence and difference, *not* technological homogenisation and convergence: in this sense, there is a 'splintering' of international politics into 'blocs' on radically different paths of technological development. Seth Larney's *2067* (2022) depicts a planet ravaged by climate change and nuclear wars where the ultimately pessimistic conclusion is that 'time travel' technology becomes the only hope to change the apocalyptic path society is on, creating the possibility of what looks like a future 'ecotopian' planet in the final scenes of the movie. The focus of this special issue explores its own form of 'time travel' into the future as a means of creating dialogue and awareness in the present that might contribute to shaping or changing the global paths we are on.

In this article, I want to suggest that, while it might be risky[5] to predict specific events or the emergence of specific technologies, I think we can provide a 'sketch' of the challenges and desires that might be central to the political, economic, social, and ethical problems that will intensify in the years out to 2074. More specifically, I am going to suggest that questions of societal and political control will continue to be fundamental to the challenges humanity faces in the next 50 years, a continuation of the political and social problems of modernity but playing out in a range of political contexts and with a plethora of technological 'tools' and tactics, strategies of protection against the potential *weaponisation of everything*, to use a phrase from Mark Galeotti.[6] While the future world of 2074 might not be a fragmented time of technological difference as depicted in *The Creator*, it might be a future where technologies, tactics, and terrains mutate and *multiply*.

But at the same time, while societies in 2074 might be confronting conditions that are an intensification of 'modern' political problems, there is the possibility that the impact of climate emergencies and other ecological/technological dangers might produce times of global disorder unlike anything experienced in modernity, radically transforming (or *mutilating*) the 'material' foundations of international politics and economy, presenting us with problems (and solutions) unlike anything encountered before. At this point, as Bruno Latour suggested, we might have to depart (for our own survival and the survival of future generations) from the ideas about politics, economy, and the world of sovereign states that we have 'inherited' from the theories and practices fundamental to modernity.

So, the next 50 years could be an intensification of the society and technology depicted in Steven Spielberg's *Minority Report*, with citizens confronting similar ethico-political challenges on control,

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[2]Kai-Fu Lee and Chen Qifan, *AI 2041: Ten Visions for Our Future* (London: WH Allen, 2021); James Powell, *The 2084 Report: A History of Global Warming from the Future* (London: Hodder & Stoughton, 2020); Hassan Blasim (ed.), *Iraq + 100: Stories from a Century after the Invasion* (London: Comma Press, 2016).

[3]Franco Beradi, *After the Future* (London: AK Press, 2011).

[4]Nassim Nicholas Taleb, *The Black Swan* (London: Penguin, 2010).

[5]Mark Lacy, *Theorising Future Conflict: War out to 2049* (London: Routledge, 2023), p. 4.

[6]Mark Galeotti *The Weaponisation of Everything: A Field Guide to the New Way of War* (Yale, CT: Yale University Press, 2022).

surveillance, and policing raised in the film of the book written by Philip K. Dick in the previous century. Or we could be dealing with a time where the 'everywhere' of international politics is disappearing or degrading in ways we can only begin to imagine, scenarios that might even exceed what is presented to us in the 'ecological' science fiction/speculative fiction of writers such as Kim Stanley Robinson in *Ministry for the Future*, Amitav Ghosh in *Gun Island*, Margaret Atwood in *Year of the Flood*, or William Gibson in *The Peripheral*.

The line of inquiry that this article develops is supported by books and films that might be described as science fiction, even if they are more on the side of 'cyberpunk' or 'cli-fi', works that focus on *near* future crimes, technologies, bodily enhancements, cities, and states of climate emergency rather than the sci-fi of spaceships, interplanetary colonisation, and alien contact/UFOs (as interesting as that area of International Relations [IR] can be, the possibility of events that might take us into new areas of philosophy/theology or back to questions of colonialisation and past encounters between different worlds/societies that have been explored in IR).[7]

Science fiction is drawn upon here not because it is viewed to have 'predictive' powers lacking in government or business 'futurism' but rather because 'speculative' fiction can, as Kim Stanley Robinson suggests, provide a means of 'modelling' the future,[8] a way of exploring possible events or trends on the horizon, a way of opening up discussion on the future through work that begins to visualise creatively the possibilities that university-based research might be reluctant to discuss, especially in a discipline obsessed with 'realism' rather than 'fiction'. Science fiction can generate new or alternative sets of concepts, terms, and scenarios – an alternative language of security, technology, and international politics – to help us discuss what might be on the horizon and what we have yet to experience or confront.[9]

The future of order and control

The philosopher Gilles Deleuze suggested in the 1980s that there were signs of new techniques and technologies of control that were emerging in a time where surveillance could become ubiquitous through the sensors and devices that were becoming increasingly pervasive across bodies, buildings, cities, and infrastructures.[10] The limits to control were being overcome in a time that opened up the possibilities for a variety of technologies to monitor what was taking place across a territory (the use of CCTV cameras, for example, through to the use of drones for 'patterns of life' surveillance or the smartphones used for 'track and trace' or 'test and trace' during pandemics) and the ability to connect organisations/actors through technologies of instantaneous communication; the proliferation of new technologies of control and surveillance to deter through the sense of constant and ubiquitous monitoring. In modernity, politicians and policymakers explored the constantly evolving techniques of policing and control in order to respond to the constantly changing 'threat horizon'; citizens came to demand more secure and hygienic environments, the biopolitics of security to provide healthier and longer lives.[11] States produced organisations to evaluate the constantly changing threat horizon that risked producing new forms of domestic and international insecurity. For Deleuze, there was an intensification in the possibilities for societies of control, an intensification driven by technology and the emergence of neoliberalism.

[7]Daniel W. Drezner, 'UFOs exist and everyone should start adjusting to that fact', *The Washington Post* (28 May 2019), available at: {https://www.washingtonpost.com/outlook/2019/05/28/ufos-exist-everyone-needs-adjust-that-fact/}; Alexander Wendt and Raymond Duvall, 'Sovereignty and the UFO', *Political Theory*, 36:4 (2008), pp. 607–33.

[8]Kenza Bryan, 'Writer Kim Stanley Robinson: "If the world fails, business fails"', *Financial Times* (12 November 2023), available at:{https://www.ft.com/content/3aa6af6c-d0dc-4378-9dc1-4c5684a56ea0}.

[9]See, for example, Jonathan Klug and Steven Leonard (eds), *To Boldly Go: Leadership, Strategy, and Conflict in the 21st Century and Beyond* (Haverton: Casemate Publishers, 2021); William Davies (ed.), *Economic Science Fictions* (London: Goldsmiths Press, 2018); Annalee Newitz, 'I prefer not to admire problems', *The Hypothesis* (11 August 2023).

[10]Gilles Deleuze, *Negotiations* (New York: Columbia University Press, 1997).

[11]Michael Dillon and Julian Reid, *The Liberal Way of War* (London: Routledge, 2009), p. 4.

From the perspective of Deleuze in his essay on societies of control, the desire for control is fundamental to the politics of security in modernity. For the 'technocrats' or 'technicians' of this security politics, the objective is to devise tactics to deter and control a variety of actors and threats. In this sense, the objective of the liberal politics of security in the 21st century is the same as it ever was; to produce order and security that prevents a 'legitimation crisis' where citizens feel that insecurity is reaching levels that requires a new political regime – or even a new ideology to shape politics and economy. The role of government, military, and police is to limit and control disruptive and destructive events, to deter actors from nefarious acts, or to intervene pre-emptively to prevent harmful events from materialising, to protect national or global economies.

Much of the contemporary security state focuses on issues that would be familiar to the bureaucrat and policymaker from 1924 or 1824; crime, terrorism, pandemics, espionage, sabotage, subversion, economic disruption, and war. But what might surprise the policymaker from a past London or Paris is the *multiplication* of security challenges, the multiplication of actors and technologies. Indeed, the policymaker from 1969 (seeing the possibilities of the computer and space age) might be surprised by more than the emergence of incredible technologies we carry around in our pockets; the policymaker from London in 1969 might be perplexed by the possibilities for international politics in a time of transformation out of a 'unipolar' moment (with states like India that were once colonies becoming economic superpowers) and where non-state actors appear to have the power to rival states in their world- (and space-) transforming capability (where, for example, Elon Musk's companies can shape war and politics, where tech companies transform all aspects of politics, society, and economy, where non-state actors can disrupt the shipping routes of the global economy through the use of drones).[12] For the technocrat/technician of security in the 2020s, the challenge is to respond to a threat horizon where there is a constantly evolving set of actors, technologies, and tactics, all contributing to a sense of uncertainty and insecurity, threats that risk overwhelming even the most powerful (the problem that some would say the United States began to confront in 2023 as conflicts emerged in multiple locations and fear intensified about its readiness for even more geopolitical chaos and conflict on the 'threat horizon'). This time of multiplication will likely continue to acceleration in the next 50 years.

Contemporary (and future) international politics looks increasingly like the books and movies imagined by the 'cyberpunk' writers who started speculating on the future of society and technology around a similar time that Deleuze (along with intellectuals such as Paul Virilio)[13] were writing about the future of control, society, and technology.[14] In the books of William Gibson, Bruce Sterling, and Rudy Rucker, we were confronted with worlds where 'super-empowered' individuals/hackers could perform increasingly clever (and devious) 'exploits' (or bodily modifications or enhancements) with emerging technologies, where corporations with increasing power were transforming the world (and what it means to be human), and where states have new techniques of surveillance and control. In the cyberpunk of the 1980s, the Cold War was fading in significance future as digital and biological technologies created a different type of international politics and economy – and with the proliferation of new actors across the planet seeking to exploit the chaos (and economic possibilities) of the new digital age: new possibilities for the intensification of control at the same time as threats to control intensified, diversified, and multiplied.

In the discipline of IR/Security Studies by the 1980s, intellectuals such as James Der Derian and Timothy W. Luke were writing and researching in a style that resonated more with the explorations of emerging technology, security, politics, and culture found in William Gibson than with the

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[12]Ronan Farrow 'Elon Musk's shadow rule', *The New Yorker* (21 August 2023). Although some might see the significance of non-state actors in shaping world affairs as a return to historical business as usual.

[13]Mark Lacy, *Security, Technology and Global Politics: Thinking with Virilio* (London: Routledge, 2015).

[14]For a useful introduction to cyberpunk, see Caroline Alphin, *Neoliberalism and Cyberpunk Science Fiction: Living on the Edge of Burnout* (London: Routledge, 2022).

'realist' depictions of international politics found in Kenneth Waltz.[15] Der Derian's *Antidiplomacy: Spies, Terror, Speed and War* opened up new ways of thinking and writing about security and international politics in IR in the same way that Gibson's *Neuromancer* created new possibilities for writing about future crimes and technology in science-fiction novels and film.[16] Outside of IR, intellectuals such as Donna Haraway began to think about the emergence of a 'cyborg' body and feminist politics in hugely influential work on nature and technology.[17]

In the 2020s, the emerging technological, economic, social and political challenges faced by states around the world increasingly resemble the plots of cyberpunk novels and films, exemplified by Chris Miller's *Chip War: The Fight for the World's Most Critical Technology* and Andy Greenberg's *Sandworm: A New Era of Cyberwar and the Hunt for the Kremlin's Most Dangerous Hackers*; the work of 'mainstream' (and often very technocratic) security studies and analysis is often exploring the same terrain as writers such as William Gibson, a terrain or threat horizon filled with hacker states, acts of cyber subversion and cybercrime, drone wars and non-state drone sabotage, anxieties about AI, astropolitical conflict and competition. A time when it is hard to ignore debates about the possibly catastrophic impact of AI on society and security, the concern that AI will enable non-state actors to orchestrate events that previously only a state could produce – and to enable states to develop tactics and technologies that previously only existed in science-fiction films.

Some more apocalyptic commentators are concerned that AI will begin to develop its own interests and capabilities to pursue its objectives.[18] Less futuristic (compared to debates about the future potential of AI) are the debates about cyberwar and cybersecurity and the concern that a 'hybrid' mix of state and non-state actors are able to orchestrate acts of 'informational' war that manipulate and influence the social media landscape (election hacking, disinformation campaigns, fake news, and conspiracy theories), the possibility of cyber-criminal activities from a safe distance designed to fund more conventional strategies of war and international conflict and competition, attempts to sabotage the critical infrastructures that support all aspects of our networked lives, with smart homes, smartphones, and smart cars in smart cities. In Sam Esmail's *Leave the World Behind* (2023), there is a striking scene where Tesla cars are being remotely controlled to smash into other cars made by Tesla in order to block roads, a tactic that is part of a broader strategy to produce chaos in an invasion that exploits the vulnerabilities of connected societies without having to put troops on the ground. Simply put, the possibilities for national (in)security and a constantly mutating threat horizon point to a future beyond realism or liberalism, a future in the 'grey zones' of international politics.

The weaponisation of everything

Mark Galeotti writes about this time of geopolitical conflict and competition in terms of the 'weaponisation of everything'. For Galeotti, international politics is filled with a multitude of actors who seek to exploit the vulnerabilities of liberal societies, all in the hope of ensuring advantage at home and abroad; tactics of economic espionage and influence that might be about securing advantage in the industries and technologies that will shape the 21st century; attempts to cause social and political tension and division in the liberal world that are as much about attempting to discredit political systems abroad that might be attractive to citizens at home. Of course, the infamous General Gerasimov would argue that the West has been – and continues to be – very skilled

[15]James Der Derian, *Antidiplomacy: Spies, Terror, Speed and War* (London: Wiley-Blackwell, 1992); Timothy W. Luke, 'Discourses of disintegration, texts of transformation: Re-reading realism in the new world order', *Alternatives*, 18:2 (1993), pp. 229–58.

[16]William Gibson, *Neuromancer* (London: Gollancz, 2016).

[17]Donna Haraway, *Simians, Cyborgs and Women: The Reinvention of Nature* (London: Routledge, 1991).

[18]For a useful introduction to debates over AI, see Bruce Sterling, 'AI is the scariest beast ever created', *Newsweek* (28 June 2023), available at: {https://www.newsweek.com/2023/07/21/ai-scariest-beast-ever-created-says-sci-fi-writer-bruce-sterling-1809439.html}.

in the 'dark arts' of interfering with and shaping the political and economic conditions of states around the planet.[19]

Many of these tactics are what might be described as *sub-threshold*, actions under the threshold that could lead to war, difficult to attribute (which is often the case with cyber events) and difficult to control and manage. Indeed, David Kilcullen describes this time of international politics in terms of *liminal* war, an ambiguous and uncertain space between war and peace.[20] The risk of war between nuclear powers leaves states operating in the sub-threshold zones, exploring the weaponisation of everything and the constantly evolving possibilities of liminal war; war will not disappear but be used in the zones outside or on the edges of great power competition – or war in the liminal space of international politics will used as a tool of great power conflict and competition, events to experiment with or demonstrate new military technologies to be used for 'policing' world (dis)order.

Admitting that his writing can feel *dystopian*, Galeotti suggests, however, that this type of conflict is not something we should view in bleak, pessimistic, and dystopian terms:

> It would be easy to see the future described here as dystopian, one of eternal conflict, in which everything from charity to the law can be mobilised as a weapon. Yet I would certainly rather be targeted by disconcerting memes than nuclear missiles, and there are, fortunately, no artillery barrages in information war. This is by no means a vision of future bloodless conflicts – people die from economic sanctions, anti-vaccine disinformation and health budget corruption too, after all – but of at least a less bloody one, in which direct state-to-state war in increasingly priced out of the mainstream.[21]

On this view, states will be able to manage and control the weaponisation of everything; the benefits of connected and networked societies still outweigh the costs and risks in societies of control. For Galeotti, the future of international politics will be about learning to love the 'permanent, bloodless war'.[22] Of course, there might not be much to love for those trying to survive in the necropolitical 'death-worlds' that Achille Mbembe writes about, for those trapped in Gaza or Ukraine, the 'liminal' zones in a global society of control.[23]

Much of this emerging literature on this time of liminal war and the weaponisation of everything is packed with examples that feel like stories from the pages of cyberpunk rather than the 'realist' accounts of power and competition in international politics. All states are concerned – albeit with different concerns about privacy, human rights, and 'reputational damage' – with attempting to control a range of social, political, and economic activities made possible through the constantly multiplying/mutating tools of digital communication, business, and crime, a politics of (in)security that ranges from the disruptive and costly cybercrimes perpetrated on the British Library in 2023 through to attempts to orchestrate bank heists or hacks in the pursuit of 'rewards' unlike anything possible in the history of organised crime, events that might be the result of states' actions or organised crime activities – or a hybrid of state/organised crime in the 'grey zones' of international politics.[24] In Bangladesh, there is a concern about the Digital Security Act and the ways in which it is being used (often to control political activity and debate) to police the online world (and as a strategy of deterrence);[25] in China, there is a range of tactics used to govern all aspects of life

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[19]Valery Gerasimov, 'The value of sience is in the foresight', *Military Review* (January–February 2016), available at: {https://www.armyupress.army.mil/portals/7/military-review/archives/english/militaryreview_20160228_art008.pdf}.

[20]David Kilcullen, *The Dragon and the Snakes: How the Rest Learned to Fight the West* (London: Hurst, 2020).

[21]Mark Galeotti, *The Weaponisation of Everything*, p. 6.

[22]Ibid., p. 207.

[23]Achille Mbembe, *Brutalism* (Durham, NC: Duke University Press, 2023).

[24]BBC News, 'The Lazarus heist: How North Korea almost pulled off a billion-dollar hack', (21 June 2021), available at: {https://www.bbc.co.uk/news/stories-57520169}.

[25]Mark Lacy and Nayanika Mookherjee, '"Firing cannons to kill mosquitos": Controlling "virtual" streets and the "image of the state in Bangladesh"', *Contributions to Indian Sociology*, 54:2 (2020), pp. 280–305.

in intimate and pervasive ways (with tactics that John Gray argues originate in the 'illberal West' and the work of Carl Schmitt).[26] Liberal states are viewed as being concerned about the *balance* of security/control and liberty.

To be sure, when we are talking about the future of international politics, there is always the possibility of a catastrophic war that sets everything back to a pre-digital or even pre-modern time. A series of accidents and miscalculations could leave survivors in some territories – including states that currently think or hope that nuclear deterrence will protect them, ignoring the possibility that other states might *escalate to de-escalate* – in an apocalyptic wasteland resembling a *Mad Max* film. But if we take an apocalyptic war out of the equation, then we can reasonably assert that the digital technological path we are on will continue, intensifying societies of control. There might be moments when technological change accelerates, and there might be moments when it slows down; there might be resistance to or refusal of some socio-technical innovations, or there might be some trends that prove to be too disruptive and are outlawed by states (as we see in the film *The Creator*). But the path out to 2074 will likely be one where individuals can have access to networked technologies (on and possibly *in* their bodies) that allow them to become subjects of what Shoshana Zuboff describes as 'surveillance capitalism', systems that collect increasingly intimate and 'granular' data to respond to (and understand) consumer desires and habits – and then attempt to shape/control those desires (or create new desires).[27] The possibility with AI is that it enables the creation of new technologies and security policies in societies of control, creating new insights from the data that is collected at all scales, from the citywide to the nationwide, and possibly even planetary.

So, from this perspective on the next 50 years, the political desire will continue to focus on creating innovations and tactics in diverse societies of control around the planet. States will seek to control, police, and monitor all the activities that take place across their sovereign territory (and possibly outside, the ability to engage in what the political geographer Derek Gregory described as 'the everywhere war',[28] although the possibilities for future 'policing' wars or 'special military operations' will be shaped by changing domestic and international contexts, contexts shaped by a possible multiplication of actors, values, tactics, technologies, and terrains); states will use different tactics and technologies of control; citizens in different regimes will tolerate different forms/intensities of control in their everyday lives (and might challenge the use of violence and control in foreign territories, especially in states where demographic change results in global entanglement and interconnection). It might be the case that the sources of insecurity and disorder societies are confronted with means that – as generally occurred during the pandemic – people are willing to accept new policies of control and surveillance in order to be protected/secured/controlled.[29]

It might also be the case that we become 'habituated' to possibilities for our (self-)surveillance and monitoring because the technologies we use make all aspects of our lives easier and more efficient; it might also be the case that these ambiguous/dual-use technologies for our increasingly 'cyborg' bodies continue to be designed in ways that make them seductive and desirable.[30] What will Apple be designing in 2074? And will their products transform what a body can do or become? Their products exist *inside* our bodies; our eyes and brains might be connected and networked in ways that are currently only imagined in science fiction; corporations might be able to control and shape our post-human/cyborg bodies. International relations might be transformed when more and more citizens interact in the type of 'virtual' spaces depicted in *Ready Player One* (or even *The Matrix*). War might be transformed by new types of 'proximity' in these virtual spaces; states and corporations might seek to police and control the possibility of a 'digital cosmopolitanism'. When (or if) the *biopolitics* of control becomes the *necropolitics* of extermination or abandonment,

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[26] John Gray, *The New Leviathans* (London: Penguin, 2023), p. 40.

[27] Shoshana Zuboff, *The Age of Surveillance Capitalism* (London: Profile Books, 2019).

[28] Derek Gregory, 'The everywhere war', *The Geographical Journal*, 177:3 (2011), pp. 238–250.

[29] Giorgio Agamben, *Where Are We Now? The Epidemic as Politics* (New York: Rowman & Littlefield, 2021).

[30] Mark Lacy, 'Designer security: Control society and MoMA's SAFE: Design takes on risk', *Security Dialogue*, 39:2–3 (2008), pp. 233–257.

how will violence and destruction be presented, consumed, and experienced? What will necropolitical violence and destruction look like in 2074? What would the wars in Gaza or Ukraine look like if they were fought (in 2074 rather than 2024) after 50 years of technological and geopolitical change, transformation, and acceleration? What makes these questions so challenging is the problem of technological acceleration[31] in the context of social, (geo)political, and economic change in times when we are aware of the multiplication of possible futures.

One of the growing concerns in contemporary 'mainstream' Security Studies is the emergence of a variety of technological areas where individuals and groups have enhanced capabilities. Audrey Kurth Cronin, for example, argues that we have moved from a period where innovation in weaponry tended to emerge in 'closed'[32] systems, innovation that required the expertise and resources of states, into a situation of 'open technological innovation' where a range of actors can become 'enhanced' by the 'lethal empowerment' that might emerge from AI, drones, robots, and all things cyber and digital. For Kurth Cronin, the integration of emerging technologies 'into unexpected combinations will surprise us. The degree of systems integration and command-and-control that emerging technologies are providing has never before been within reach of individual actors or small groups. Swarming, self-driving truck bombs, and robots are just the beginning.'[33]

While this time of open technological innovation risks creating a new era of global disorder where states are unable to effectively police societies of control, the risks of lethal empowerment can be managed, according to commentators such as Kurth Cronin, through improved defensive and regulatory measures. But in terms of the next 50 years: what acts or events will an individual or group/non-state actor be able orchestrate with 'tools' that will enable them to possibly transform/modify their own bodies (and transform, manipulate, or damage the bodies of others)? What acts of sabotage, subversion, and espionage will an individual be able to produce from their home laboratory with the 'kit' they bought online or in the local store? How will future AI 'tools' enable new types of 'creative destruction' for those without the skills, training, and resources provided by states and universities? What will be the sources of dangerous innovation beyond what is currently on our horizon scanning (the threats posed by engineered pathogens and synthetic biology, autonomous weapons and AI, cybercrime and cyber sabotage)?

So, we have two trends here that are intensifications of challenges confronted by states throughout modernity. On the one hand, states will seek to produce societies of control to produce order and security in a situation of domestic disruption and foreign 'interference' (activities that will likely, according to commentators such as Galeotti, remain sub-threshold, the weaponisation of everything but not actions comparable to acts of war); states will seek to produce and maintain control in times where more and more aspects of life can become targets of crime or foreign espionage, sabotage, and subversion. On the other hand, in times of 'open technological innovation', individuals, groups, and non-state actors might be able to engage in activities with dramatic impacts, the type of actions previously only states would be able to orchestrate: individuals exploring technology and biology, groups exploring the possibilities of AI for nefarious activities, criminals exploring the potential of robotics (and AI and robotics) to create new crimes of the future.

The challenge for states will be on how to manage the balance of liberty and security/control (or increasingly the balance of innovation/commercial interest versus safety in the realm of AI) when confronted with sources of disorder that may have dramatic and dangerous impacts on the security and stability of states and economies.[34] For the security analysts mentioned in this paper so far, the challenge will be to manage and control these potential threats in these times of 'permanent, bloodless war'. Galeotti concludes *The Weaponisation of Everything* by outlining what the individual

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[31] Azeem Azhar, *Exponential: Order and Chaos in a Time of Accelerating Technology* (London: Penguin, 2022).

[32] Audrey Kurth Cronin, *Power to the People: How Open Technological Innovation Is Arming Tomorrow's Terrorists* (Oxford: Oxford University Press, 2020), p. 23.

[33] Ibid., p. 267.

[34] Mustafa Suleyman and Michael Bhaskar, *The Coming Wave: AI, Power and the 21st Century's Greatest Dilemma* (London: Penguin, 2023).

can do to resist these often 'contactless' actions at a distance.[35] Kilcullen suggests that states will have to develop strategies of 'societal resilience' to counter the variety of sub-threshold threats that states will have to deal with, from cyber-sabotage, disinformation campaigns, and influence operations to economic manipulation and political subversion.[36] Kurth Cronin suggests that there may be legal and regulatory steps that can be developed to manage the dangers of lethal empowerment in a time of open technological innovation.[37] Simply put, the 'technicians' and 'technocrats' of future security will seek to produce and maintain order and control through a mix of technical fixes, policing tactics, and legal and regulatory measures.

Many of these areas of technological and social change are explored in rich cinematic detail, compounding our anxiety about the future, anxieties explored in movies such as Spielberg's *Minority Report* and *Ready Player One*, David Cronenberg's *Crimes of the Future*, Denis Villeneuve's *Blade Runner 2049*, or Edwards's *The Creator*. Humanity has possibly never been confronted with so many scenarios of the future of society – and certainly never in such rich, dramatic, and visceral cinematic detail; a fascinating question to speculate on is *how* citizen in 2074 will consume the apocalyptic and dystopian entertainment about the future threats that are being imagined by the artists and writers (or AI) of 2074, on the threats being imagined for the next 50 years of international politics …

The weaponisation of everywhere

Of course, it is not clear that control and security will be possible in times of open technological innovation. One set of 'worse case' scenarios are the futures as imagined by David Cronenberg in films such as *Videodrome* (released in 1983, a more 'body horror' view on the worlds being imagined by cyberpunk writers at that time) and *Crimes of the Future* (released in 2022), where human bodies are undergoing radical transformations and mutations driven by technological and environmental change, resulting in new forms of business and entertainment beyond the control of the state.

But at the same time, attempts to manage open technological innovation might result in oppressive, totalitarian societies of control and surveillance, the type of society depicted in *Minority Report*; the radical implications of open technological innovation assisted by AI might drive the production of intense societies of control like the ones imagined by Philip K. Dick (in writings going back to the 1950s). But if this is the path we are on, then it is very much a continuation of ethico-political problems and dilemmas faced throughout modernity; how to manage disruptive technological, economic, and social change in times of industrialisation or digitalisation; how to police and control society as cities and states become more complex and 'congested'; how to survive (ethically, politically, psychologically, and physically) as an individual in societies that produce new forms of surveillance and control or new economic conditions resulting from technological innovation.

Societies of control *and* open technological innovation will likely take us into cyberpunk situations that resemble *Minority Report* and *Crimes of the Future* – and into worlds and technologies that we cannot currently imagine. But the ethico-political challenge will be the same as it was throughout modernity – maintaining the balance of liberty and security or innovation versus safety in times of new systems of control and technological transformation; or facing the emergence of unrest and resistance when this balance is not part of the social and political equation, when people challenge and resist control.

While we cannot predict what types of society and technology will exist in 2074, it seems reasonable to suggest that the problem of control will remain fundamental to states around the world – but

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[35] Galeotti, *The Weaponisation of Everything*, pp. 220–2.
[36] Kilcullen, *The Dragon and The Snakes*, p. 255.
[37] Kurth Cronin, *Power to the People*, pp. 256–58.

the diversity of responses and problems might intensify. At the same time, the ethical and political problems that individuals confront in 2074 will likely be familiar to the problems that Aldous Huxley or George Orwell saw on the horizon for humanity in 1932 (*Brave New World*) and 1949 (*Nineteen Eighty-Four*) – or in dystopian fiction from outside of capitalist modernity such as *We* (1924) by Yevgeny Zamyatin.

But the challenge for all states and technicians of security will be the sheer range of technology, tactics, and actors that pose potential security problems for states dealing with the weaponisation of everything. To be sure, some will argue that states will have a broader range of AI and drone/robot 'tools' to assist in the policing and control of societies. But the challenge for states might not simply be the weaponisation of everything, it will be with the *weaponisation of everywhere*: there will be more zones, territories, terrains, or domains that are open to economic (or criminal) exploitation and interstate competition. In the weaponisation of everywhere, terrains or domains will be transformed by ecological and technological change – and emerging technologies will create the possibility of new types of action and activity in these emerging zones of conflict, crime, and competition (for example, the use of robots in hazardous zones or in terrains previously not accessible for human activity, the ability of a non-state actor to extend its disruptive territorial 'reach' across seas and other domains through the use of drones, a reach that might even have astropolitical implications by 2074); the creation of zones and territories that do not currently exist (such as virtual reality similar to *Ready Player One*) or are not yet accessible (in space or in the deep sea). The emergence of interstate competition and sub-threshold activity might be due to ecological and technological change – as we see with concern about the 'grey zone' or hybrid threats in the Arctic[38] and discussion of emerging terrains of conflict, competition, and exploitation in the sub-threshold zones of the deep sea.[39]

Cities might become chaotic environments congested with robots, drones, and tunnels/underground environments, where, as Anthony King suggests, there are a number of 'urban Armageddons' on the horizon.[40] There might be a growing number of 'artificial' cities such as Neom, planned for Saudi Arabia, cities designed for control and security in times of geopolitical uncertainty and ecological danger (although as Edwin Heathcote suggests, the carbon footprint is unlikely to make Neom a model for future cities, a dystopia presented as a utopia).[41] The security state might have to prepare for military interventions in artificial environments and urban infrastructures unlike anything we can currently imagine, design, or build. Citizens around the planet might spend more of their times in virtual cities, virtual environments that might become new spaces for sabotage, crime, espionage, and subversion – with consequences for society, economy, war, and politics that we cannot currently imagine.

The emergence of space and astropolitics is already a key domain of economic and interstate competition, with the possibility of *astropolitical liminal war*, with acts sabotage, espionage, and subversion activity both on earth and in space: one commentor suggests that the 'weakest point in a space system may be the human element, including scientists, engineers, technologists, and additional supporting staff'.[42] As Daniel Deudney argues in *Dark Skies: Space Expansionism, Planetary Geopolitics and the Ends of Humanity*, the emerging 'space age' imagined by business leaders might be 'over-hyped' (even out to 2074) and might generate dangers that are anything but 'sub-threshold',

[38]Rebecca Pincus and Walter A. Berbrick, 'Gray zones in a blue Arctic: Grappling with China's growing influence', *War on the Rocks* (24 October 2018), available at: {https://warontherocks.com/2018/10/gray-zones-in-a-blue-arctic-grappling-with-chinas-growing-influence/}.

[39]Scott Moore and Dale Squires, 'Governing the depths: Conceptualising the politics of deep sea resources', *Global Environmental Politics*, 16:2 (2016), pp. 101–10.

[40]Anthony King, *Urban Warfare in the Twenty-First Century* (Cambridge: Polity Press, 2021), p. 214.

[41]Edwin Heathcote, 'Saudi's Neom is dystopia presented as utopia', *Financial Times* (1 August 2022), available at: {https://www.ft.com/content/04fcb9d4-5907-45b0-9388-f84b34bc4bea}.

[42]Paul Szymanski, 'Techniques for great power space war', *Strategic Studies Quarterly*, (Winter 2019), available at: {https://www.airuniversity.af.edu/Portals/10/SSQ/documents/Volume-13_Issue-4/Szymanski.pdf}.

producing new threats to the survival of humanity, dangerous new arms races and zones of strategic miscalculation.[43] There will be a growing concern with accidents in space that might generate unintended and catastrophic consequences for global security (such as damaging the satellite technology that underpins infrastructures of deterrence and war and risking the limitation of further activity in space).[44] By 2074, there will likely be a multitude of actors (a variety of states, corporations, and possibly non-state actors) pursuing a multitude of objectives (economic, military, and possibly criminal), exploring the possibilities of technologies that currently do not exist or that we cannot currently imagine: a future that is as likely to be shaped by private corporations (using a mix of AI and robots, like the Weyland-Yutani corporation in the *Alien* films) as it is by states and militaries.

Future terrains or domains might also include the zones more likely to be found in a Christopher Nolan or David Cronenberg film, the terrain of the psychological, the biological, or the neuro-scientific; where the body becomes a terrain enhanced by a multitude of different technologies and pharmacological interventions (and open to new forms of intervention and manipulation);[45] where – as Nolan's *Inception* begins to explore – the 'brain' becomes an object of security, crime, surveillance, and neuro-warfare.

For individuals, the concern will be how to survive/cope in situations where states and corporations develop new strategies and technologies for control (especially in moments where the citizen might feel in tension with states and corporations, the types of dystopian situation depicted so powerfully in *Mr Bates vs The Post Office* [2024] – but intensified in times of AI management technologies beyond anything we can imagine). For the technocratic manager of security, we can devise policies and methods to manage the threats to national security, building the 'societal resilience' needed to maintain the balance of security and liberty in times of dramatic and disruptive social, economic, political, and technological change. The strategic, political, and ethical question will be on whether this time of multiplication – of terrains, tactics, technologies, and actors, the potential for the weaponisation of everything and everywhere – will be 'manageable' and 'resilient' or whether it will result in fragility and vulnerability, overwhelming states and other actors, 'deterrence by entanglement' resulting in our dangerous entanglement with insecurity and vulnerability.

But there is another trend or possibility we can see on the horizon that might have radical consequences unlike anything encountered in modernity – and that will risk destroying or transforming all the 'building blocks' of the modern age; sources of disorder and chaos unlike anything experienced in the 'creative destruction' of modernity. The world out to 2074 might see a continuation of the modern technocratic desire to produce order and control. But rather than a time of modifications, enhancements, innovations, and additions – the future might be one of *disappearance* of both the political ideas of modernity and the material/ecological/infrastructural foundations of the modern age of sovereign states and a global capitalist economy.

Waves of mutilation: The future of habitability and the mutilation of international politics

And first of all that it was no one thing. That it was multicausal, with no particular beginning and no end. More a climate than an event, so not the way apocalypse stories liked to have a

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[43]Daniel Deudney, *Dark Skies: Space Expansionism, Planetary Geopolitics, and the Ends of Humanity* (Oxford: Oxford University Press, 2020).

[44]Ben Zweibelson 'Reconceptualizing the space domain beyond the historic concepts of warfare', *Shriever Papers* (6 December 2023), available at: {https://www.airuniversity.af.edu/AUPress/Display/Article/3608993/reconceptualizing-the-space-domain-beyond-historic-perspectives-of-warfare/}.

[45]Andrew Bickford, *Chemical Heroes: Pharmacological Supersoldiers in the US Military* (Durham, NC: Duke University, Press, 2020).

big event, after which everyone ran around with guns, looking like Burton and his posse, or else were eaten alive by something caused by the big event. Not like that.

William Gibson, *The Peripheral*

After 9/11, Gibson's work became less futuristic cyberpunk and more focused on a present that felt like the worlds imagined in the 1980s and 1990s; the future is here, Gibson famously declared, but it is not evenly distributed. The work focused on an emerging security landscape where all that was left was 'risk management' in a world where there were limited social and political resources through which to imagine a future that provided hope, existential security, the sense of habitable futures;[46] in books such as *Spook Country, Zero History*, and *Pattern Recognition*, the security landscape was made up of paranoid environments filled with state, criminal, and business actors exploring the possibilities of emerging tech, all of the actors pursuing ambiguous and often unclear objectives. But what Gibson suggests throughout all the different stages of his work is that this new digital age was never going to deliver the technological utopia and 'enlightenment' that is shown to us in business advertisements or in the visions of Silicon Valley 'thought leaders' and entrepreneurs.

From Gibson's cyberpunk optic, while future international politics would still see wars – the wars fought by the soldiers in Gibson's *The Peripheral* who are now recovering from the harm of using new machines of 'war at a distance' or war by 'remote control' – catastrophic interstate wars would disappear as societies deal with a range of emerging global risks, threats, and opportunities; great powers will continue to be engaged in arms races across a multitude of emerging technologies; there will be moments when they feel the need to demonstrate their capabilities as warnings, acts of deterrence – or as a means of 'policing' the chaotic zones that are viewed as sources of disorder and insecurity. But great power or near-peer conflict will remain sub-threshold in an intense world of sabotage, espionage, subversion, and cybercrime.

But throughout much of Gibson's work – and in the work of other cyberpunk writers such as Rudy Rucker – the focus is on those left behind and excluded after robotics, biological enhancement, and AI make large sections of society redundant, left to fend for themselves in abandoned urban wastelands, in what Gibson refers to as the 'sprawl' in cities around the world.[47]

While some would enjoy the latest innovations in AI, robotics, virtual reality, biotechnology, and 'cyborg-inisation', others would struggle to survive in environments that did not even need to exploit them and just needed to keep them at a safe distance – both physically and digitally (as some would seek to access the 'good life' through new cybercrimes). Gibson's point was that these abandoned people and spaces would not just be a policing or security problem in the foreign megacities outside the West or 'developed world': all states would be dealing with the harsh reality of inequality, exclusion, and abandoned people and places, all underpinned by the ruthless 'anarcho-capitalist' ideology of the technological visionaries and entrepreneurs. Deleuze concluded that the future of societies of control would involve the policing of environments beyond the pervasive systems and technologies of surveillance and monitoring: 'control will have to deal not only with vanishing frontiers, but with mushrooming shantytowns and ghettos'.[48]

The consequences of AI and robotics will raise dramatic questions about the future of states and capitalism. What types of jobs will exist for human bodies and minds in 2074? Will all areas of the economy be confronted with the disappearance of the jobs that provided the levels of order and security that bureaucrats and policymakers saw as tolerable and necessary for a 'healthy' economy and society? There will be those who argue that a 'new capitalism' will emerge out of technological change that finds technical fixes and social policy solutions that do not require fundamental changes to capitalism; others will argue that the impact of AI and robotics will be so dramatic that it will result in the realisation of the economic and political ideas that thinkers such as Karl Marx

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[46]William Gibson, *Pattern Recognition* (London: Penguin, 2004), p. 57.

[47]Jason Diamon, 'The origins of sprawl', *The Paris Review* (26 August 2020), available at: {https://www.theparisreview.org/blog/2020/08/26/the-origins-of-sprawl/}.

[48]Deleuze, *Negotiations*, p. 181.

saw as the possible future for modernity and capitalism, times where all that is solid melts to air (or now into the cloud).

But regardless of whether there will be liberal technical fixes or communist reimagining of the economy, questions of work, class, inequality, and technological change will remain central to the debates (and actions) that unfold across the planet out to 2074. An interest in Marx is unlikely to disappear, nor will the questions he raises about work, exploitation, and alienation. The point being made by Deleuze and Gibson in the 1980s was that the future was going to be made up of cyberpunk grittiness, griminess, and messiness as much as the beautifully designed products made by Apple. If there is a soundtrack or sonic representation for this grimy, uneven, and polluted future, it is Sonic Youth's *Daydream Nation* (1988), the chaotic sound and images influenced by William Gibson on tracks such as 'The Sprawl'. As Kate Crawford illustrates in *Atlas of AI: Power, Politics and the Planetary Costs of Artificial Intelligence*, times of enthusiasm for all things digital, 'quantum', and AI risk masking the more 'material' realities of exploitation and ecological degradation that are often invisible in our 'cloud' cities.[49]

But the presentation of the ideas in this article so far on the world out to 2074 is very much a 'linear' story of modernity, where the political challenges and questions produced by social, political, economic, and technological innovation and change remain the same as they were since the start of industrialisation, modern states, and globalisation; the continual emergence of disruption countered with attempts at control managed by the 'technicians of security'. But what if the 21st century produces events that exceed attempts to protect this 'linear' direction of modernity?

Climate emergency becomes one of the primary global dangers/accidents/disasters in Gibson's recent work, one element in his trilogy The Jackpot, the accumulation of events that results in societal and ecological catastrophe in *The Peripheral* and *Agency*.[50] In *The Peripheral*, the ruthless products of crime and international politics – Russian organised crime based in London (the 'Klept') – are one of the key actors restoring order and security; new technologies (nanobots called 'assemblers') are used to geoengineer and technically fix and repair the post-Jackpot world. To be sure, it is impossible to know what impact climate emergencies (or other ecological catastrophes) will have in the next 50 years – or what 'technical fixes' might enable us to keep on with 'business as usual', what future 'assemblers' will be able to (re)create or repair what is left of humanity or the planet.

But there are certainly projections[51] for the next 50 years that illustrate the possibility of a world that presents us with a terrifying 're-ordering' (or dis-ordering) of all aspects of life (and death) around the planet, the type of horror that is vividly explored in books such as Kim Stanley Robinson's *Ministry for the Future* and *New York 2140*: Robinson's work, while depicting catastrophe in the next 50 years and beyond, also begins to think about the difficult challenges of rebuilding life on earth after the catastrophe, thinking into the centuries ahead. In *The 2084 Report: A History of Global Warming from the Future*, a professor of geochemistry gives a wide-ranging account of how all aspects of life, death, and international politics will be catastrophically impacted by climate change.[52]

Simply put, the geography or 'theatre' (as theorists of IR might view the 'stage of international politics) in the future societies of control might present radical and disturbing challenges in the next 50 years of international politics. The French sociologist and philosopher Bruno Latour made a

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[49]Kate Crawford, *Atlas of AI: Power, Politics and the Planetary Costs of Artificial Intelligence* (Yale, CT: Yale University Press, 2021).

[50]William Gibson, *The Peripheral* (London: Penguin, 2014), pp. 319–21.

[51]Climate Central, available at: {https://sealevel.climatecentral.org/maps/}.

[52]James Lawrence Powell, *The 2084 Report*.

point about the 'realist school' of International Relations and ecological degradation that continues to explain how many observers view the planetary threats we confront:

> The geopolitical strategists who pride themselves on belonging to the 'realist school' will have to modify somewhat the *reality* that their battle plans are going to have to face. Formerly, it was possible to say that humans were 'on earth' or 'in nature', that they found themselves in 'the modern period' and that they were 'humans' more or less 'responsible' for their actions … But how can we say where we are if the place 'on' or 'in' which we are located begins to react against our actions, turns against us, encloses us, dominates us, demands something of us and carries us along its path?[53]

Latour's point is that we might need to think about 'political' actors in international politics beyond generally human/anthropocentric assumptions about what the political 'actors' are that shape history, events, actions, world affairs. The point being made here is that the 'reality' of international politics might change in ways we have never experienced before (or certainly not in modernity).

In modernity, the crises of war and economy often resulted in attempts to reform international politics, to repair and rebuild the societies that were damaged. Now, it might be the case that there will be 'technical fixes' (geoengineering solutions, the creation of futuristic cities in the harshest environments, the 'assemblers' that Gibson writes about, innovations in technology produced by AI) that repair and rebuild societies around the world, enabling 'business as usual' and societies of control, preventing ecological catastrophe; the possibility of catastrophe is averted through the risk management of the technocratic security state and global governance. But what Latour is pointing to is the possibility of events that transform the 'material' reality of international politics and the ideas and values that have been developed throughout modernity to shape economic and societal development. The crises of modernity were focused on returning to the material reality, infrastructure, and societies that were destroyed/disrupted, to focus on rebuilding and repair; but what if the material reality/territory that supports and constitutes society and international politics begins to *disappear*? What if there is no technical fix to stop a state from disappearing into desert or sea? What if the maps of international politics – filled with territories all trying to produce and maintain control, order, and security – are gradually (and possibly rapidly and dramatically) destroyed, 'mutilated' beyond repair and technical fixes? This is not to suggest the destruction of civilisation is inevitable but rather that a *mutilation* of the geography and ecology of international politics is possible, destruction that will present the world with challenges beyond anything encountered in the wars and economic crises of the modern age, a time when water *and* fire create events beyond the control of the security state.[54]

Much of what has been presented here is a linear story of modernity. But what Latour – and other ecological thinkers – are suggesting is that the future might confront us with challenges that require more than (re)production or continuation of the strategies, practices, responses, and ways of thinking developed through modernity. In *On the Emergence of an Ecological Class: A Memo*, Latour (writing with Nikolaj Schultz) explores the way that ecology might come to constitute a political ideology, agenda, and narrative in a future politics at a level similar to the definitional/organisational power and consistency of liberalism, socialism, and conservatism.[55] Latour and Schultz suggest that Marxist definitions of class provided an understanding of the material conditions

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[53] Bruno Latour, *Down to Earth: Politics in the New Climatic Regime* (Cambridge: Polity Press, 2018), p. 41. For more analysis of 'realist' thinking and climate, see Mark Lacy, *Security and Climate Change: International Relations and the Limits of Realism* (London: Routledge, 2006).

[54] Simon Dalby, *Pyromania: Fire and Geopolitics in a Climate Disrupted World* (Newcastle upon Tyne: Agenda Publishing, 2023).

[55] Bruno Latour, *On the Emergence of an Ecological Class: A Memo* (Cambridge: Polity Press, 2022).

of capitalist modernity, describing the processes that enable the continuation of capitalist society, the mechanisms through which societies are reproduced; a classification of the actors that are positioned in an 'antagonistic fashion within that production process'.[56]

But while Marxist thinkers provided an important understanding of the material conditions of society, a different 'materialism' is required now because, according to Latour and Schultz, we are no long dealing with the *same* materiality.[57] Simply put, Marx was focused on the reproduction of humans through systems of production that are now systems of planetary *destruction*;[58] and we now need to take into account the 'habitability conditions' of the planet in a way that dominant modern political and economic theories ignored.[59] But according to Latour and Schultz, we struggle to respond to the ecological crisis because we are caught or trapped by the ideas, values, and practices inherited from modernity. On this view, there is another class struggle *beneath* the modern class struggle and the ideas on society and economy fundamental to Marxists and Liberals;[60] this 'ecological class' will have to think about the issue of habitability in ways that go beyond the 'inherited' ideas about political community and political economy. Simply put, the future of international politics and economy might take us to a point where we have to explore and reimagine how we live on the planet and with other people (and creatures) in ways that challenge all the practices and ideas that are fundamental to both Marxism and Liberalism; this is not to say we depart from all the ethico-political concerns created and developed through modernity – but we will have to think about habitability (food, architecture, urbanisation, borders, travel, consumption, education, work, policing, and so on) in ways that transform all aspects of existence beyond a world of sovereign states and capitalism.

So, what I am suggesting in this journey out to 2074 is that it is likely that the modern problem of control will continue to be one of the ongoing security challenges for bureaucrats and policymakers; there will no doubt be new tactics and technologies that take us into worlds that resemble (and go far beyond) the worlds depicted in movies like *Minority Report* (and might even take us into the terrifying worlds imagined in Cronenberg's *Crimes of the Future*). The challenge for those tasked with the control and order of the state will be the possibility of open technological innovation where individuals and groups can do clever, creative, and possibly criminal things with the new tools of AI, synthetic biology, and robotics. At the same time, the state will have more terrains and technologies to manage and police: the liberal would argue that the benefits of new terrains and tools will make this all manageable; the more dystopian thinker will see a time of future chaos where states struggle to manage the complexity of mutating terrains of economy and security; the future will edge into the darker visions of chaotic, violent, and polluted worlds imagined in cyberpunk.

The technological and ecological change ahead will likely present societies and economies with questions broader than problems of security, control, and policing towards issues of work, inequality, and the future of capitalism. The world in 2074 would no doubt feel alien to us (if we were able to time travel there from the 2020s) – but the ethico-political and economic questions will be continuations of the problems and challenges experienced throughout modernity. The technicians of security that desire for order and control, however, might confront the possibility of ecological crisis that may overwhelm the ability of states to control and manage, to continue business as usual – and might radically transform (and mutilate) the 'maps' of modernity and international politics. To be sure, these challenges might be managed by technical fixes and innovation (enhanced by future AI). But it might be at this point that ideas and solutions to political and economic challenges depart from anything developed in the 'classic' works and political movements of modernity.

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[56]Ibid., p. 11.

[57]Ibid.

[58]Ibid., p. 13.

[59]Ibid., p. 14.

[60]Ibid., p. 24.

The world in 2074 will likely look alien and 'other' to visitors from 2024; at the same time, this world might be trapped in a 'nostalgia mode'[61] that tries to recreate the past, as we see in the depictions of future London in Amazon Prime's version of Gibson's *The Peripheral*. But there is also the possibility in 2074 (and possibly much sooner) of an 'otherness' in worlds reimagining, transforming, and mutating the ideas about politics, economics, and habitability inherited from modernity. These ideas are explored in the work of thinkers such as Latour, Haraway, and Mbembe; by 2074, the future development of these ideas might begin to occupy a different space on the landscape of society and politics around the planet – and approaches to ecology and politics might be dealing with problems of habitability that we cannot currently imagine.[62] Or the emerging ideas on habitability might continue to exist in the underground networks trying to survive and create in the societies of control that are continuing to maintain some kind of order and security on a planet of fire and waves of geopolitical mutilation.

Concluding remarks: On cyborg subjects and the disappearance of the human from international politics

In June 2023, the editors of this special issue organised a panel at the BISA conference in Glasgow where a panel of IR scholars were set a number of questions about the future of global politics and the discipline of IR. One of the questions posed by Martin Coward was on whether the discipline should continue to exist in 2074. The possible futures of hyper-control and global disorder pointed to in this article suggest that the concerns of IR as a discipline will very likely have a future (the future economy of higher education, however, might mean it does not), both in terms of concerned students/citizens seeking to understand the world they find themselves in and for the more technocratically minded who seek careers in government and international organisations. The complexity of the next 50 years will no doubt require educational programmes to help policymakers navigate the constantly changing technological and geopolitical worlds that emerge – the potential sources of disorder that they might be tasked with managing and controlling.

The form of the education or degree programmes might change: more IR programmes combined with education in STEM subjects to assist with understanding the new challenges of AI, robotics/replicants, quantum computing, and biotechnology/synthetic biology, ecology, space exploration, the challenges in times of open technological innovation. And even in the more catastrophic scenarios of global disorder and breakdown, there will need to be education on the problems of world order creation and rebuilding, the lessons of past global crises and times of transformation, the insights from international theory on issues of order, justice, and war, insights from other traditions and cultures that imagined political community beyond the conventional visions and practices of modernity; the type of political visions found in books such as Achille Mbembe's *The Earthly Community: Reflections on the Last Utopia* that provide us with resources from beyond the inherited 'classics' of modernity.[63]

To be sure, it is impossible to capture the radical (and possibly unimaginable) possibilities of the next 50 years in an academic essay that is trying to be 'realistic' or 'sensible'; the next 50 years might push the possibilities of technology, society, politics, and international relations beyond what we can currently imagine, beyond even our science-fiction tools. As Kim Stanley Robinson puts it, 'the future is radically unknowable: it could hold anything from an age of peaceful prosperity to a horrific mass-extinction event. The sheer breadth of possibility is disorienting and even stunning.'[64] The range of possibilities for all aspects of life on earth is disorientating. If you are not writing

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[61]Fredric Jameson, *The Cultural Turn: Selected Writings on the Postmodern, 1983–1998* (London: Verso, 1998).

[62]See, for example, the future worlds described by Donna Haraway in *Staying with the Trouble: Making Kin in the Chthulucene* (Durham, NC: Duke University Press, 2016).

[63]Achille Mbembe, *The Earthly Community: Reflections on The Last Utopia* (Rotterdam: V2_Publishing, 2023).

[64]Kim Stanley Robinson, 'Empty half of its humans: It's the only way to save the planet', *The Guardian* (20 March 2018), available at: {https://www.theguardian.com/cities/2018/mar/20/save-the-planet-half-earth-kim-stanley-robinson}.

and thinking in a manner that leaves the reader feeling overwhelmed and disoriented, it could be argued, then you are not really thinking seriously about the future. There are simply too many radical and 'mind-blowing' possibilities that will enhance and transform our human capabilities at the same time as new systems of control trap us in ways unimaginable to previous technicians, designers, and managers of security and policing. Astropolitical futures in space exploration/exploitation (and possibly Lunar and Martian interstate competition and conflict), new possibilities for the life extension and enhancement of the 'cyborg' body, new forms of communication (and surveillance and neuro-warfare) produced by 'neuralink' technologies: even the imaginative speculations of Philip K. Dick, William Gibson, Margaret Atwood, Rudy Rucker, Ursula Le Guin, and J. G. Ballard might not capture what is ahead of us, the events, the catastrophes, the horror, and the wonder.

But returning to the question of whether the discipline of IR should still exist in 2074: one of the fundamental concerns of IR as a discipline is a focus on war, the causes of war, the changing character of war, the transformation of political community and the 'architecture' of international politics in response to wars; the discipline also explores alternatives to a world of sovereign states and ways to limit, control, and possibly eradicate the use of political violence and war as a 'tool' of international politics. Robert Cox declared that there was a distinction between problem-solving theory and emancipatory theory:[65] problem-solving theory was the work to assist in the technocratic management of the world as it is; emancipatory theory is concerned with redesigning or reimagining international politics and economy, to reorient politics to objectives beyond the technocratic or instrumental, to broaden the sense of interests (beyond the interests of specific states or classes) towards ethico-political concerns that might be planetary. In the time out to 2074, the disciplinary divide might be between problem-solving theory focused on technocratic management of world order/disorder and theory and activism focused on repairing or protecting what Latour and Schultz describe as 'the conditions of habitability'.[66]

But the question of violence and war remains an urgent concern for theoretical or ethico-political perspective, problem-solving theory, and a future-habitability theory. Why do states wage 'unnecessary' wars? How is the liberal way of war different from the warfare of other types of political regime? How will war change in a multi-polar world with new actors, tactics, technologies, and terrains? How will war be used as a tool in a world dealing with the crises of the Anthropocene where geopolitical calculations of 'risk' and 'reward' might change in the new geographies of international politics? Is war and violence going to disappear from the human condition, disappearing into the sub-threshold undergrounds of our existence?

At the same time, and linked to the desire for control explored earlier, the discipline is focused on how states police and manage borders and territory, the issue of who can be included and excluded in a political community – and how the processes of inclusion/exclusion are managed legally, technologically, and in terms of security practices that can produce environments of dehumanisation, violence, and control. This ethico-political concern was central to the work of Andrew Linklater in books such as *Men and Citizens in International Relations* and *The Transformation of Political Community*.[67] Throughout his work, Linklater provided an historico-philosophical account of how the theories and practices of political community change and evolve; for Linklater, there is the possibility of overcoming the limits of a narrow, technocratic vision of politics towards different conditions for habitability on the planet. More recently, Gregoire Chamayou writes a history of civilisation in terms of *manhunting*.[68] Rather than as a historical process that creates the possibility of new conditions of habitability on a planetary scale, Chamayou sees the 'civilising process' in terms of a continual (re)production of the tools and techniques to hunt and control the

[65]Robert Cox, 'Social forces, states and world orders: Beyond International Relations theory', *Millennium: Journal of International Studies*, 10:2 (1981), pp. 126–55.

[66]Latour and Schultz, *On the Emergence*, p. 14.

[67]Andrew Linklater, *Men and Citizens in the Theory of International Relations* (London: Macmillan, 1982); Andrew Linklater, *The Transformation of Political Community* (Cambridge: Polity Press, 1998).

[68]Gregoire Chamayou, *Manhunts: A Philosophical History* (Princeton, NJ: Princeton University Press, 2012).

bodies viewed as threats to a community. This history of civilisation in terms of control, brutalisation, and exploitation is described by Mbembe as the 'nocturnal body' of our liberal theories of progress.[69]

Thinkers such as Linklater recognised the violence of the 'nocturnal body' of the liberal state, the possibility for brutality and exploitation in the name of progress and the civilising process. But thinkers such as Linklater see the possibility of confronting and overcoming the nocturnal body of the modern state; thinkers such as Chamayou are possibly less convinced that we will overcome the theories and practices that result in control and domination of 'illegal' bodies, bodies that pose a threat to the order, control, and security of the state. The technologies and techniques of control will just become more invasive and pervasive in times of AI, drones, and new tactics of psychological/neuro-warfare and policing.

But regardless of where intellectuals and researchers stand on the question of whether alternative political communities and conditions of habitability are possible, in work on the ethico-political issues on borders, security, and technology, there is a concern with the fragility of the human body (and often with the vulnerability of other creatures from human actions and activities). To be sure, much of the discipline is focused on technocratic questions of global governance and management, on avoiding global crisis and disorder to ensure 'sustainable' development. But at the same time, there is a great deal of work across a variety of subject areas and theoretical perspectives on the fragility of the *body*, on the ways bodies can be controlled, exploited, brutalised, on the suffering that can result from the theories and practices of strategy, national interests, and *realpolitik*.[70] As Giorgio Agamben might put it, the ability to decide who is going to be tortured or when it is time to send people to fight a war is the foundation of politics;[71] the focus on the 'sovereign' ability to decide what is going to happen to other people's bodies is the most 'timeless' ethico-political question and remains fundamental to the concerns of IR as a discipline.

Questions of war are, at root, questions about bodies; about who gets to make (and for what reasons or strategic 'calculations') the life-changing and death-creating necropolitical decisions on how bodies can be used as tools of political violence. In *Global Powers of Horror: Security, Politics, and the Body in Pieces*, Francois Debrix suggests that the ethico-political question is not just about the decision-making power that decides who lives and dies; it is about the way that the body, brutally broken into fragments, can be used as elements in spectacles of horror for different objectives (ranging from the use of body parts as warnings or strategies of deterrence intended for enemies, through to the presentation of fragments of bodies in memorials). Debrix concludes with ideas on how attempts to examine and represent this dehumanised landscape of body parts can open citizens to alternative ways of understanding and engaging with global politics, to confront the 'body horror' of global politics, as he argues the 9/11 Memorial Museum invites people to do.[72]

So, this concern with the fragility and vulnerability of the body that remains central to the discipline of IR (sometimes implicitly, sometimes explicitly) will mean that the study of the past, present, and future of international relations should definitely remain in the landscape of our higher education in 2074. But the most radical possibility is going to be what has happened to human bodies in 2074, the bodies that have been fundamental to the history of political thought, the history outlined in different way in the work of thinkers from Agamben and Mbembe to Linklater and Debrix. One of the most radical possibilities for the world in 2074 will be that a body is not the same as a body in 2024 or 1924, raising the possibility that violence, pain, and suffering might not be the same as it has been understood in the history of political thought and international theory, the disappearance

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[69]Achille Mbembe, *Necropolitics* (Durham, NC: Duke University Press, 2019), p. 6.

[70]Christine Sylvester, *War as Experience* (London: Routledge, 2012); Lauren B. Wilcox, *Bodies of Violence: Theorizing Embodied Subjects in International Relations* (Oxford: Oxford University Press, 2015).

[71]Giorgio Agamben, *Homo Sacer: Sovereign Power and Bare Life* (Stanford, CA: Stanford University Press, 1998).

[72]Francois Debrix, *Global Powers of Horror: Security, Politics, and the Body in Pieces* (London: Routledge, 2017), p. 131.

of the 'natural', fragile, and vulnerable human body from global politics. A world where 'consciousness' (or memories and dreams) can be downloaded or shared,[73] where bodies can be replaced with 'clones' or 'enhanced' through robotic or pharmaceutical modifications, worlds where people can inhabit other 'bodies' like the 'peripherals' imagined by William Gibson. At this point, the cyborg citizens and workers of the future might need the ethico-political concerns of the discipline more than at any point in history. Or the philosophical, ethical, economic, ecological, technological, and political consequences of cyborg bodies in the Anthropocene might need 'tools' and education beyond what we can currently imagine, as we begin to understand and rethink what a political 'actor' or 'action' is in ways beyond the theory and practices of economy and politics inherited from modernity.

Video Abstract.   To view the online video abstract, please visit: https://doi.org/10.1017/S0260210524000093.

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[73]See, for example, Rudy Rucker, *Juicy Ghosts* (Los Gatos, CA: Transreal Books, 2021); Jennifer Egan, The Candy House (New York: Little Brown, 2022).