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RESEARCH ARTICLE

Thinking through and beyond survival in a nuclear age

Laura Considine

University of Leeds, Leeds, UK
Email: l.considine@leeds.ac.uk

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Abstract

This article investigates the assumption that survival should form the goal of the politics both of nuclear weapons and of International Relations (IR). Rather than being a self-evident grounding upon which political contest then plays out, survival has its own implications and limitations in the thermonuclear age, in which survival has become premised on the threat of total annihilation. As such, nuclear weapons allow us to unpack 'survival' in a unique way because they have the power to destroy everything: to end all survival. Yet at the same time, nuclear weapons have become deeply embedded into our world. In an age of thermonuclear weaponry, survival through annihilation has thus become a paradox that structures the ambivalence of nuclear technology and the tensions of nuclear politics. The article first establishes the nature of assumptions of survival as a taken-for-granted goal of IR and nuclear weapons politics. It then argues that the paradoxical logic of survival as annihilation that accompanied the nuclear era has resulted in a politics of repetition in which both deterrence and disarmament actors have become trapped. The article ends by outlining the limits of understanding whose survival is at stake in nuclear weapons discourse and why this matters.

Keywords: IR theory; nuclear deterrence; nuclear disarmament; nuclear revolution; nuclear weapons; survival

Introduction

Nuclear weapons scholarship and policy have typically grappled with the challenge of nuclear weapons in terms of survival and annihilation: how can we ensure our survival in a nuclear-armed world? This seems to be common sense. Given that several states have the power to decide to destroy life as we know it in a matter of hours, stopping this from happening should be the principal purpose of nuclear politics. While there has been much written about the recent polarisation[1] of nuclear studies and nuclear politics between 'disarmers' and 'deterrers', the place of survival as the self-evident grounding of nuclear politics cuts across both camps. They may differ in how best to ensure survival, but both broadly accept survival as a fundamental purpose of their work. Survival as the opposite of apocalypse has formed an unquestioned goal of nuclear politics and the foundation on which the contest between nuclear deterrence and disarmament politics occurs, in that the two positions propose antithetical solutions to the question of survival.

The discipline of International Relations (IR) has similarly placed survival as the primary concern of the international realm, for example in Martin Wight's assertion that 'international theory

[1]Kjølv Egeland, 'How I learned to stop worrying and embrace diplomatic "polarization"', *Peace Review*, 29:4 (2017), pp. 482–8.

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is the theory of survival'.[2] For traditional IR theory, the international as a space of sovereignty and anarchy means that the topic of survival is not an extreme concern but the central one.[3] As such, survival has been the taken-for-granted grounding and justification for IR during much of the discipline's history. In order to do anything, we need to survive. But what does 'survival' mean? Debate in IR on what survival includes and requires has in one way followed long-standing philosophical questions about the good life versus mere survival[4] as a means of establishing what Ken Booth termed 'survival-plus'.[5] Scholars from diverse approaches have very differing perspectives on the means and ends of survival, with some challenging the foundations of anarchy and the role of state that underpin the stakes of survival for traditional IR theories. Yet the concept of survival itself at the core of international politics has remained largely intact amid these fierce debates.

This article argues that nuclear weapons both require and allow us to unpack 'survival' in a unique way in international politics because they have the power to destroy everything: to end all survival. The advent of the potential for total annihilation that accompanied the development of thermonuclear weapons and Intercontinental Ballistic Missiles (ICBMs) meant that certain states had the power to kill tens or hundreds of millions of people while at the same time becoming unable to protect their own citizens from the same fate. As such (and in distinction from previous eras in which annihilation of peoples and cultures was certainly a part of international politics), survival became inseparable from annihilation of the self as well as of the enemy. This article asks: what does it mean to survive in this world?

Acknowledging the logic of survival through annihilation as *the* dynamic of the thermonuclear age is not a new contribution. Both deterrence and disarmament advocates recognise this situation, though with contending normative and political perspectives; either conceiving of survival '*thanks to* nuclear weapons' or '*from* nuclear weapons'.[6] Those who accept survival as provided by nuclear weapons accept the survival/annihilation logic as an unfortunate but inescapable fact of international politics. Those who argue for disarmament claim instead that survival through annihilation is both morally wrong and unacceptably dangerous. Instead, survival should be separated from the threat of annihilation and premised on a different logic, whether that be global governance, abolitionism, decolonialism, etc. This article takes a different stance to both of these perspectives. I position myself alongside those who believe that survival through annihilation is untenable, yet I also don't find the normative argument for breaking the survival/annihilation logic of the nuclear age satisfying. The article argues that it is not possible to separate survival from annihilation in an age of total destruction. Instead, the concept of survival itself as the grounding for the politics of nuclear weapons and the legitimisation of nuclear weapons possession and use needs to be problematised and not accepted as a common ground on which nuclear weapons politics is contested.

Nuclear-armed states present nuclear weapons as the ultimate guarantors of survival of national political existence. This is expressed in nuclear declaratory policy, which asserts what reasons will form the basis for nuclear weapons use. For example, the United States and France both state that the condition for nuclear weapons use will be to defend 'vital interests',[7] for Russia it is to protect

[2]Martin Wight, 'Why is there no International Theory', in Herbert Butterfield and Martin Wight (eds), *Diplomatic Investigations* (London: George Allen & Unwin, 1966), p. 33.

[3]Wight, 'Why is there no International Theory'.

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

[5]Ken Booth, *Theory of World Security* (Cambridge: Cambridge University Press, 2008), p. 106.

[6]Benoît Pelopidas and Kjølv Egeland, 'The false promise of nuclear risk reduction', *International Affairs*, 100:1 (2024), pp. 345–60 (p. 347). They use this distinction in relation to 'security'.

[7]See the 2022 US Nuclear Posture Review, available at: {https://fas.org/wp-content/uploads/2023/07/2022-Nuclear-Posture-Review.pdf} and the French Defence and National Security Strategic Review 2017, available at: {https://franceintheus.org/IMG/pdf/defense_and_national_security_strategic_review_2017.pdf}.

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'sovereignty and (or) territorial integrity'.[8] In addition, China explains its possession of nuclear weapons as maintaining 'national strategic security',[9] and the UK as protecting its 'way of life'.[10] Survival has thus become the limit of nuclear politics in that it is the supreme justification for both nuclear weapons possession and nuclear weapons use. That survival is the limit of nuclear weapons politics can also be seen in international law. The 1996 International Court of Justice's Advisory Opinion on the Legality of the Threat or Use of Nuclear Weapons stated that:

> in view of the current state of international law, and of the elements of fact at its disposal, the Court cannot conclude definitively whether the threat or use of nuclear weapons would be lawful or unlawful in an extreme circumstance of self-defence, in which the very survival of a State would be at stake.[11]

While much has been made of the implications of this opinion by anti-nuclear campaigners, more importantly for the purposes of this article what this statement does is illuminate how the logic of survival as a justification for annihilation has become embedded not only into nuclear doctrines but also into international law. This article argues that survival in the thermonuclear age thus carries a set of consequences, in that survival is premised on and only guaranteed through the capacity for its total negation. Nuclear-armed states justify the right to fight a nuclear war in service of survival, and the international institutions of nuclear order explicitly or implicitly reinforce this justification. Rather than being a self-evident and neutral grounding upon which political contest over nuclear weapons then plays out, ensuring survival through potential extinction thus becomes the core paradox of nuclear politics.

As such, the purpose of this article is to excavate the dominance of survival as a grounding both of the IR canon and of international nuclear politics. I argue that in the nuclear context survival can no longer be assumed to be self-evident or agreed. But neither is it simply an empty signifier and open ground for contest.[12] The article first conducts a broad, top-level survey of the shape of International Relations as a discipline founded on survival. This summary review shows how the embeddedness of survival in IR goes largely unquestioned across a variety of influential mainstream and critical literatures. The literature review then identifies research that has begun the work of unpicking 'survival' from various perspectives. While this scholarship has begun to problematise survival and its place in international politics, it has not engaged with the nuclear realm as the limit of survival, which I argue is the starting point for any excavation of the concept. The main body of the article then makes the case that taking survival for granted is no longer tenable. The article gives a brief account of the development of this circumstance in the 1950s then argues that scholarship both at the time and since has been unable to meaningfully grasp what survival means in this context. It argues that the paradoxical logic of survival as annihilation that accompanied the nuclear era has resulted in a politics of repetition in which both deterrence and disarmament scholars and actors have become trapped. It then examines how this manifests in the question of whose survival can be meaningfully included in nuclear weapons politics, arguing that both survival and annihilation are ungraspable in the thermonuclear age.

[8] See the 2020 Russian 'Basic Principles of State Policy of the Russian Federation on Nuclear Deterrence', available at: {https://mid.ru/en/foreign_policy/international_safety/1434131/}.

[9] See the 2023 statement on no first use, available at: {https://www.icj-cij.org/sites/default/files/case-related/95/7497.pdf}.

[10] See for example the UK Nuclear deterrence factsheet, available at: {https://www.gov.uk/government/publications/uk-nuclear-deterrence-factsheet/uk-nuclear-deterrence-what-you-need-to-know}.

[11] Available at: {https://www.icj-cij.org/sites/default/files/case-related/95/7497.pdf}.

[12] See Benjamin Zala, '"No one around to shut the dead eyes of the human race": Sartre, Aron, and the limits of existentialism in the Nuclear Age', *Review of International Studies*, 49:5 (2023), pp. 795–812, on the topic of nuclear survival and existentialism.

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Survival and International Relations

The idea of survival as the motivation of international politics has for many decades been the unquestioned ground on which the mainstream of the discipline of IR and its standard theories have rested. It is not only that survival is taken for granted but that the taken-for-grantedness of survival is the very foundation of the discipline. There have been various strands of work that have complicated traditional realist and liberal understandings of the dynamics and processes of survival, such as work on, for example, ontological security. There is also a band of work that has critically engaged with the disciplinarity and governance of survival, such as scholarship on biopolitics, as well as literature on post-humanism in IR.[13] All of this work is focused on identifying and unpacking modernity's relationship with survival. Yet these literatures do not directly engage with 'survival' itself as the core of modern international politics and of IR as a discipline, but rather with its subjects and manifestations.

This section of the article will first provide a broad overview of the contours of IR to show how survival forms its foundation, even in work that challenges the assumptions of the realist-liberal traditions. For reasons of space, this is a necessarily sweeping review of the core texts of mostly the mainstreams of the discipline, but this focus on core texts is also important as it shows how the most influential works across several IR schools rest on the ground of survival. This is not to say that there are no differences in the means and referents of 'survival' in strands of IR literature, which have very different approaches to knowledge and the world and different potential outcomes. The core point here is rather that these differences have to date generally left 'survival' as a central concept of IR untouched. As such, I argue that 'survival' itself is worth unpacking.

The section also includes a review of some literature in IR that has taken on survival as a subject of study and has begun to unpack its implications. This literature comes from disparate places, and, though each begins the job of addressing survival as a subject for conceptual interrogation, they leave further work to be done. The section ends with references to scholarship on nuclear weapons that has begun to problematise some of the often taken-for-granted dynamics and assumptions of nuclear politics. While this scholarship has not expressed these issues in terms of the relationship between the nuclear and survival, I argue that articulating nuclear politics through this relationship provides a useful way in which to understand the political dynamics that this critical work identifies.

Traditional IR theories and survival

Perhaps the most influential statement of IR's relation to survival is from Martin Wight:

> International theory is the theory of survival. What for political theory is the extreme case (as revolution, or civil war) is for international theory the regular case. The traditional effort of international lawyers to define the right of devastation and pillage in war; the long diplomatic debate in the nineteenth century about the right of intervention in aid of oppressed nationalities; the Anglo-French argument in the nineteen-twenties about which precedes the other, security or disarmament; the controversy over appeasement; the present debate about the nuclear deterrent – all this is the stuff of international theory, and it is constantly bursting the bounds of the language in which we try to handle it. For it all involves the ultimate experience of life and death, national existence and national extinction.[14]

Wight speaks of survival in terms of 'life and death' and the imperative for national survival. He incorporates both individual and collective survival, which can also be seen in the writings of other traditionally central figures of IR and is drawn from an intellectual tradition reaching back to

[13] See Edgar Illas, *The Survival Regime, Global War and the Political* (New York: Routledge, 2019).
[14] Wight, 'Why is there no International Theory'.

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the antecedents of IR. According to Hedley Bull, the fundamental right to survival runs 'through European history from Machiavelli and Botero and Rohan to Frederick the Great, Hegel and Treischke'.[15] For Hans Morgenthau, the desire for power is what lies behind competition between people rather than the simple will to survive, yet survival as the basis for any competition must precede any desire for power. The drive for power 'concerns itself not with the individual's survival but with his position among his fellows *once his survival has been secured*'.[16] Beyond the individual level, the primary purpose of any political organisation is, according to Morgenthau, to 'safeguard the biological survival of its members'.[17] Survival thus provides the primary motivation for action at both individual and state level. Survival also forms the core of modern strategic studies.[18]

The rationalist statist approaches of neorealism and neoliberalism take the assertion of the centrality of survival as the bed-rock on which to develop their contrasting theories of national interest.[19] Kenneth Waltz rests his theory of world politics on survival as 'the ground of action in a world where the security of states is not assured'.[20] Any other aims are secondary because 'only if survival is assured can states safely seek ... other goals'.[21] While neoliberal accounts of world politics take issue with the centrality of security and military concerns as threats to or means by which states secure their survival, they do not question the place of survival as the ultimate grounding of self-interest in realist theories.[22] Thus the neo–neo debate took place on the unexamined assumption of survival as the ground on which IR theory contests occur. Similarly, classic Wendtian constructivism posits two pre-interactional, constitutive features of the world of states. First, there is the material constitution of the 'material substrate of agency'; for the individual, this means the body, and for states a governance body determined domestically. Secondly, there is 'a desire to preserve this material substrate, to survive'.[23] While subsequent work has extensively engaged with the first constitutive feature and critiqued Wendt's ontology of the state, Wendt's second point about survival as the pre-interactional goal of politics remains to a large extent unquestioned in terms of survival itself.

Non-traditional and critical approaches to survival

Beyond the rationalist mainstream, there have been various critiques of the classical realist assertions of collective survival and, in particular, the neo–neo accounts of survival as the underlying motivation for state action. Security scholarship, for instance, has questioned the prioritisation of the state as the object of survival, has argued for the security of the individual as the object of international politics, or has advocated broadening and/or deepening the security agenda while not undercutting the foundational assumption of the survival goal. The human security approach, for example, while broad and multifaceted, at its core develops a 'distinct branch of security studies that explores the particular conditions that affect the survival of individuals, groups, and societies'.[24] As

[15] Hedley Bull, 'Hobbes and the international anarchy', *Social Research*, 48:4 (1981), pp. 717–38 (p. 724).

[16] Hans J. Morgenthau, *Scientific Man vs. Power Politics* (London: Latimer House, 1947), p. 165, emphasis added.

[17] Hans J. Morgenthau, *The Purpose of American Politics* (New York: Knopf, 1960), p. 308.

[18] Tarak Barkawi and Shane Brighton, 'Powers of war: Fighting, knowledge, and critique', *International Political Sociology*, 5:2 (2011), pp. 126–43 (p. 129).

[19] For a further survey of what they term the 'survivalist assumption' in neorealism, see Burak Kadercan, 'Making sense of survival: Refining the treatment of state preferences in neorealist theory', *Review of International Studies*, 39:4 (2013), pp. 1015–37. This article offers a review of the debates over what state survival does and means and how it acts as a motivation for states but does not interrogate survival itself.

[20] Kenneth N. Waltz, *Theory of International Politics* (Reading, MA: Addison-Wesley, 1979), p. 92.

[21] Waltz, *Theory of International Politics*, p. 126.

[22] Joseph S. Nye, 'Power and interdependence revisited', *International Organization*, 41:4 (1987), pp. 725–53.

[23] Alexander Wendt, 'Anarchy is what states make of it: The social construction of power politics', *International Organization*, 146:2 (1992), pp. 391–425 (p. 402).

[24] Roland Paris, 'Human security: Paradigm shift or hot air?', *International Security*, 26:2 (2001), pp. 87–102 (p. 102).

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such, it takes the survival goal and deepens its applicability. Similarly, early Copenhagen School approaches uplifted society and identity as the referents and means of survival.[25] Ken Booth introduced a distinction between survival and security, with security as 'survival-plus'.[26] Booth argues that survival is merely the precondition of security in that 'survival is being alive; security is living'.[27] For Booth, survival remains unexamined and unquestioned as the precursor of the politics of security.

Bill McSweeney's work on security directly engages with the idea of the survival goal as the priority of security. He notes that, if one considers security in the terms of a hierarchy of human needs headed by physical survival, then it is self-evidently a given that any collective responsible for providing security must prioritise survival. In this case, the label of 'paranoia or complacency' is given to anyone who does not conceive of apportioning resources in appropriate proportions to the primacy of the survival goal.[28] When translated to the terms of international security and the state, this logic allows for threats to the state to automatically assume a position of priority to the extent to which they are projected as a threat to physical survival that our daily individual lives must be organised around. That physical survival is to a certain extent 'the bottom line', McSweeney does not dispute. Yet he argues that: 'If we allow that physical survival has a logical priority over other needs, this makes it "primary" only in the uninteresting sense: it is a logical precondition of doing anything that we remain physically alive and capable of doing it.'[29]

Meanwhile, an increasingly prominent school of thought on ontological security has challenged the claim that physical survival is the key driver of states' behaviour. This literature argues that the 'survival assumption' of mainstream IR misses the fact that the maintenance of a state's identity functions as a key motivation even over its physical survival.[30] Ontological security, the preservation of one's understanding of one's own identity, provides another cause of state action and one that can outweigh the exigencies of a state's physical security needs. The literature on ontological security expands the understanding of security and survival beyond that of the physical. At the same time, however, it does not necessarily challenge the centrality and status of survival in IR but rather broadens how survival should be comprehended. For example, Jennifer Mitzen states that the idea of physical security as the grounds of state action assumes that states have a 'body' that can die. But she asks: 'what exactly is the state's body?'[31] It could be that the territory of a state is analogous to the corporeal body of a person. It also could be that the state's body is the incorporation of its citizens' bodies or that state sovereignty is the 'body' of the state that must survive, though this raises the question of the nature of the relationship of sovereignty and physicality. The question of what/whose survival is, therefore, a complicated one, but survival itself remains largely intact.[32]

Feminist IR writers have created a wide body of literature challenging the gendered power structures and assumptions of the dominant understandings of self-help and national interest in accounts of survival and international politics. The many strands of feminist work unsettle not only the ideas underpinning grand theories of IR but also the very possibility for such grand theories

[25] Ole Wæver, Barry Buzan, Morten Kelstrup, and Pierre Lemaitre, *Identity, Migration and the New Security Agenda in Europe* (London: Pinter Publishers Ltd., 1993), p. 26.

[26] Booth, *Theory of World Security*, p. 106.

[27] Booth, *Theory of World Security*, p. 107.

[28] Bill McSweeney, *Security, Identity and Interests: A Sociology of International Relations* (Cambridge: Cambridge University Press, 1999), p. 152.

[29] McSweeney, *Security, Identity and Interests*, p. 153.

[30] Brent Steele, *Ontological Security in International Relations, Self-Identity and the IR State* (London: Routledge, 2008), p. 2.

[31] Jennifer Mitzen, 'Ontological security in world politics: State identity and the security dilemma', *European Journal of International Relations*, 12:3 (2006), pp. 341–70 (p. 351).

[32] See also Paul E. Darel, 'Sovereignty, survival and the Westphalian blind alley in International Relations', *Review of International Studies*, 25:2 (1999), pp. 217–31.

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through multiple studies of the marginalised, silenced, embodied, and mundane.[33] While the idea of 'security' has received much scrutiny,[34] survival itself has not received the same level of critique. Feminist work has, however, compellingly argued that the state itself both is an institution of and institutionalises patriarchy, and thus we might infer that 'survival' as a goal of any international politics that foregrounds the state can be understood as survival of global patriarchal structures.[35] We might then also begin to question what 'survival' as a concept itself is doing within and to these structures and to think about how the centrality of survival conditions the gendered relations of international politics.

There are some authors who have taken on survival as a subject of study in IR rather than an assumed ground. François Debrix draws on a range of post-structural scholarship to argue that the politics of security is 'obsessed with the survival of the sovereign'.[36] Debrix asserts that the obsession with political survival is a foundational part of the modality of sovereignty that must generate confrontations with outside 'agents of finitude'[37] as a means to maintain itself and its claims to perpetuity. The sovereign must 'invent the notion of political survival – and position it at the very heart of sovereign political designs' because it is only by doing so that it can reaffirm the sovereign's entitlement to perpetual life.[38] As such, survival is both a product and constituent of the preservation of sovereignty rather than its given aim.

That survival is simply a realistic and objective perspective based on the truths of the international realm has also been contested by Louiza Odysseos, who argues that the realist ontology of survival, rather than being a non-ethical, neutral position, perpetuates a particular attitude to the other. In providing the foundation of realist IR, Hobbesian thought also provided an 'ethos of survival' as a means of encountering the other as a dangerous potential enemy under anarchy.[39] Odysseos argues that realism 'grounded as it is on the ontology of danger, employs a particular "ethical" schema' of survival.[40] That this is an 'ethos' in terms of being a relational stance to the other means that survival can be understood as an ethical positioning and one that thereby maintains a connection between responsible sovereign action and survival.

Audra Mitchell's work on extinction addresses the limitations of IR as a discipline that is all about survival. Mitchell argues that IR needs to relinquish what she calls the 'fetishism of survival as it relates to dominant conceptions of the human' and 'to dispense with the imperative to ensure at all costs the survival of currently existing norms and modes of human life'.[41] This is because for Mitchell, IR will be unable to engage with the threat of extinction from climate change while it remains wedded to notions of survival of dominant types of existence as its core purpose. Mitchell argues that engaging with extinction is a normative taboo in a discipline that has centred itself on survival and is therefore unable and unwilling to face full on its negation. Yet it is this questioning

[33]Christine Sylvester, 'The contributions of feminist theory to international relations', in Steve Smith, Ken Booth, and Marysia Zalewski (eds), *International Theory: Positivism and Beyond* (Cambridge: Cambridge University Press, 1996).

[34]See Annick T. R. Wibben, *Feminist Security Studies: A Narrative Approach* (London: Routledge, 2011); Christine Sylvester, *Feminist International Relations: An Unfinished Journey* (Cambridge: Cambridge University Press, 2001); J. Ann Tickner, *Gender in International Relations: Feminist Perspectives on Achieving Global Security* (New York: Columbia University Press, 1992).

[35]V. Spike Peterson, 'Security and sovereign states: What is at stake in taking feminism seriously?', in V. Spike Peterson (ed.), *Gendered States: Feminist (Re)visions of International Relations Theory* (Boulder, CO: Lynne Rienner Publishers, 1992), pp. 31–64.

[36]François Debrix, 'Katechontic sovereignty: Security politics and the overcoming of time', *International Political Sociology*, 9:2 (2015), pp. 143–57 (p. 143).

[37]Debrix, 'Katechontic sovereignty', p. 149.

[38]Debrix, 'Katechontic sovereignty', p. 149.

[39]Louisa Odysseos, 'Dangerous ontologies: The ethos of survival and ethical theorizing in International Relations', *Review of International Studies*, 28:2 (2002), pp. 403–18.

[40]Odysseos, 'Dangerous ontologies', p. 415.

[41]Audra Mitchell, 'Is IR going extinct?', *European Journal of International Relations*, 23:1 (2017), pp. 3–25 (p. 18).

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of survival as 'dogma' that is crucial to comprehend what 'modes of existence' have brought us to the very point at which facing extinction becomes necessary.[42]

Taken together, these prior critical engagements with survival have argued that (i) survival is not a non-political grounding for international politics but deeply implicated in the continuance of the sovereign state system and its modern obsession with security;[43] (ii) survival is an ethical positioning towards the other that can be challenged rather than a function of a given Hobbesian world of self-preservation as an ethos towards the other;[44] and (iii) accepting survival on its own terms and ignoring points such those of (i) and (ii) has implications for one's ability to comprehend and respond to dangers such as climate change and nuclear weapons.[45] While this work begins to unpack survival, it does not yet engage with the context of survival in a nuclear age.[46]

Scholarship on nuclear weapons has engaged with the implications of centring the extremes of survival and annihilation in nuclear weapons politics. Gabrielle Hecht's work challenges the dominant understanding of 'the nuclear' as an ontologically separate realm and the ensuing exceptionalism of nuclear things.[47] Post-colonial and feminist work has argued for the understanding of nuclear violence as not an existential future threat but a 'lived reality'[48] experienced by many communities who have borne the brunt of the environmental, health, and socio-economic impacts of the processes of nuclear weapons production, from uranium mining to testing.[49] Rhys Crilley engages with the specific dynamics of the age of nuclear survival through the lens of 'exterminism' and argues that the characteristics of the 'third nuclear age' bring specific nuclear dangers.[50] That such dangers are institutionalised and legitimised through a hierarchical international order and through gendered and racialised power structures has been the focus of much critical work.[51] Such work has questioned the relationship between survival and annihilation in a nuclear age and its ongoing manifestation in nuclear deterrence strategies. It has not yet, however, problematised survival itself as the goal of nuclear politics. What the following section will argue is that survival itself needs to be questioned and that any conceptual unearthing and examining of survival needs to start with nuclear weapons.

Survival in a nuclear age

In 1968, Hedley Bull described the impact of nuclear weapons on the conduct of conflict by writing that 'in discussions of the conduct of strategic nuclear war the object of victory over the opponent

[42] Mitchell, 'Is IR going extinct?', p. 16.

[43] Debrix, 'Katechontic sovereignty'.

[44] Odysseos, 'Dangerous ontologies'.

[45] Mitchell, 'Is IR going extinct?'.

[46] Mitchell mentions the idea of nuclear winter as an idea that may get close to the understanding of extinction that is lacking in IR but does not go any further into nuclear politics.

[47] Gabrielle Hecht, *Being Nuclear: Africans and the Global Uranium Trade* (Cambridge, MA: MIT Press, 2012).

[48] Shine Choi and Catherine Eschle, 'Rethinking global nuclear politics, rethinking feminism', *International Affairs*, 98:4 (2022), pp. 1129–47.

[49] Shampa Biswas, *Nuclear Desire: Power and the Postcolonial Nuclear Order* (Minneapolis: Minnesota University Press, 2014); Teresia K. Teaiwa, 'bikinis and other s/pacific n/oceans', *The Contemporary Pacific*, 6:1 (1994), pp. 87–109.

[50] Rhys Crilley, *Unparalleled Catastrophe: Life and Death in the Third Nuclear Age* (Manchester: Manchester University Press, 2023).

[51] See for example Laura Considine, 'Contests of legitimacy and value: The Treaty on the Prohibition of Nuclear Weapons and the logic of prohibition', *International Affairs*, 95:5 (2019), pp. 1075–92; Laura Considine, 'Narrative and nuclear weapons politics: The entelechial force of the nuclear origin myth', *International Theory*, 14:3 (2023) pp. 551–70; Carolina Panico, 'Making nuclear possession possible: The NPT disarmament principle and the production of less violent and more responsible nuclear states', *Contemporary Security Policy*, 43:4 (2022) pp. 651–80; Benoît Pelopidas, Hebatalla Taha, and Tom Vaughan, 'How dawn turned into dusk: Scoping and closing possible nuclear futures after the Cold War', *Journal of Strategic Studies* (2024), available at: {https://doi.org/10.1080/01402390.2023.2290441}; Nick Ritchie, 'A hegemonic nuclear order: Understanding the Ban Treaty and the power politics of nuclear weapons', *Contemporary Security Policy*, 40:4 (2019), pp. 409–34; Nick Ritchie and Kjølv Egeland, 'The diplomacy of resistance: Power, hegemony, and nuclear disarmament', *Global Change, Peace & Security*, 30:2 (2018), pp. 121–41.

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has in fact taken second place to that of our own survival'.[52] The extent of the implications of nuclear weapons for survival in the international did not, however, immediately follow the creation of the first atomic bombs and their use in Hiroshima and Nagasaki. During the 1950s, the development of the thermonuclear weapon and the means of delivering them across the world on ICBMs accompanied a move from the two Cold War superpowers to centre national security strategy on nuclear power in what has been termed the 'thermonuclear revolution'.[53] In the United States, the administration of President Dwight D. Eisenhower decided that fighting the Cold War through the planned conventional military build-up of the previous administration was economically unsustainable. Eisenhower's 'New Look' policy instead stressed the role of nuclear weapons and 'maximum retaliatory power' in providing a more cost-effective deterrent against Soviet conventional superiority.[54] Alongside this shift in grand strategy was the invention of the thermonuclear weapon, which used a nuclear fusion reaction to release energy in the form of a nuclear explosion that in theory could be limitless, thus exponentially increasing the destructive potential of nuclear weapons. The US first tested a thermonuclear weapon at Enewetak Atoll in the Marshall Islands in 1952, and the Soviet Union tested their thermonuclear device at the Semipalatinsk test site in Kazakhstan in 1953. While the early atomic bombs had the potential to kill millions, thermonuclear weapons could kill tens of millions, indeed could kill everyone on earth. The US nuclear stockpile vastly increased both in numbers and power throughout the 1950s. According to Eardmann, 'in 1952, the American stockpile consisted of 832 weapons; in 1956, 3,620 weapons; and in 1959, 12,305 weapons. In early 1954, the first thermonuclear weapon, the B14, entered the stockpile on an "emergency" basis. By 1960, the stockpile approached approximately 20,000 megatons.'[55] For Eisenhower, therefore, the question to be asked of the role of war in US defence strategy was 'no longer how much damage could be inflicted on the enemy, but rather "what is left of either country after the first 72 hours?"'[56] Concurrently, the Soviet Union was shifting its strategy alongside the development of its thermonuclear capacity, moving from assigning limited importance to nuclear weapons to a strategy 'dominated by the concept of surprise and Soviet prowess in ICBMs'.[57] Both the US and the Soviet Union developed ICBM capacity during the 1950s, gaining the ability to transport vastly powerful weapons across oceans and continents in minutes.[58] The Soviet launch of the satellite Sputnik into space in 1957 made this vulnerability public. As Winston Churchill outlined in a speech to the UK House of Commons in 1955, the thermonuclear revolution entailed that 'safety will be the sturdy child of terror, and survival the twin brother of annihilation'.[59] While debates still continue as to the doctrinal significance of mutually assured destruction versus limited nuclear war, what cannot be debated is the potential for destruction that nuclear-armed states accumulated over a few short years and upon which they increasingly based their security.

The twinning of survival with such destruction raised questions about what survival actually means given the potential for nuclear apocalypse. This is something that thinkers at the time grappled with but were unable to satisfactorily answer. In a classic text of deterrence, 'Strategy

[52]Hedley Bull, 'Strategic studies and its critics', *World Politics*, 20:4 (1968), pp. 593–605 (p. 594).

[53]Campbell Craig, *Glimmer of a New Leviathan: Total War in the Realism of Niebuhr, Morgenthau, and Waltz* (New York: Columbia University Press, 2003); Robert Jervis, *The Meaning of the Nuclear Revolution: Statecraft and the Prospect of Armageddon* (Ithaca, NY: Cornell University Press, 1989).

[54]Steven Metz, 'Eisenhower and the planning of American grand strategy', *The Journal of Strategic Studies*, 14:1 (1991), pp. 49–71 (p. 56).

[55]Metz, 'Eisenhower and the planning of American grand strategy', n. 54.

[56]Andrew P. N. Eardmann, '"War no longer has any logic whatever": Dwight D. Eisenhower and the thermonuclear revolution', in John Gaddis, Philip Gordon, Ernest May, and Jonathan Rosenberg (eds), *Cold War Statesmen Confront the Bomb: Nuclear Diplomacy since 1945* (Oxford: Oxford University Press, 1999; online ed., Oxford Academic, 16 November 2004), p. 107.

[57]Lawrence Freedman and Jeffrey Michaels, *The Evolution of Nuclear Strategy, Fourth Edition* (London: Palgrave Macmillan, 2019), p. 188.

[58]Christopher Gainor, 'The Atlas and the Air Force: Reassessing the beginnings of America's first Intercontinental Ballistic Missile', *Technology and Culture*, 54:2 (2013), pp. 346–70.

[59]Available at: {https://winstonchurchill.org/resources/speeches/1946-1963-elder-statesman/never-despair/}.

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in the Missile Age', Bernard Brodie asks about the First World War: 'What were these men after that they were willing to pay so high a price for it?' Both sides were, of course, 'trying to achieve "victory". But what did that mean?'[60] Later in the text he considers how one might answer such a question in the nuclear age. For what purpose should such a terrible thing as nuclear war be waged? Brodie wrote that in an age of thermonuclear weapons 'total nuclear war is to be avoided at almost any cost. This follows from the assumption that such a war, even if we were extraordinarily lucky, would be too big, too all-consuming to permit the survival even of those final values, like personal freedom, for which alone one could think of waging it.'[61] That victory in conflict could be pyrrhic is, of course, not unique to the nuclear age. Victory, as Brodie noted about the First World War, might come at a great cost, or indeed might be meaningless or ambiguous. That much is not new. Robert Jervis argus, however, that the particular nature of mutual vulnerability that accompanied the thermonuclear age led to the potential for 'mutual kill', in that 'the side that is "losing" the war as judged by various measures of military capability can inflict as much destruction on the side that is "winning" as the "winner" can on the "loser"'.[62] In an article of 1958, Albert Wohlstetter described the new situation as a 'delicate balance of terror'.[63] Other scholars of the era described this new conundrum as, variously, simultaneous omnipotence and impotence[64] and the condition of both 'extreme power and extreme vulnerability'.[65]

Brodie was one of many US strategists and political scientists at work throughout the 1950s and early 1960s who were confronted with this new reality and were attempting to make sense of it within the traditional strategic framing of victory and defeat. In a classic deterrence text from 1961, Glenn Snyder argues that survival is about power, and that power is relational. The winner of a nuclear conflict is therefore 'the side that comes out of the war with a distinctly improved power position vis-a-vis the opponent, compared with what its power position was before the war'.[66] Thomas Schelling describes winning not relative to an adversary but to 'one's value system'.[67] Herman Kahn is more specific, suggesting that nuclear survival after a superpower conflict would entail 'a reasonable facsimile of a Russian or American standard of living'.[68] The texts these authors produced are in one way clearly reflective of their time and context, but their answers to the question to survival still form the core canon of nuclear strategic thinking today. The same discourse of survival/annihilation has played out in the decades since in cycles of Western deterrence literature in which fundamental questions of at what point and by what means deterrence is obtained have not yet been answered. Michael Williams describes the decades-long debates within nuclear strategy as between two oppositional schools, that of deterrence by denial/defence and deterrence by retaliation/punishment. In Williams's view, this divide is not one that can be resolved but is rather symptomatic of the nature of the contradictory concept of deterrence itself. Recurring attempts to resolve this contradiction and endless 'rethinking' of deterrence are characterised, according to Williams, by 'extraordinary continuity – indeed circularity' of debate.[69] Anthony Burke describes a further circularity of debate in the 'oscillation between, two connected concerns: Brodie's … concern that nuclear technology was outrunning human abilities to comprehend and organise for it;

[60] Bernard Brodie, *Strategy in the Missile Age* (Princeton, NJ: Princeton University Press, 1959), p. 61.

[61] Brodie, *Strategy in the Missile Age*, p. 269.

[62] Jervis, *The Meaning of the Nuclear Revolution*, p. 5.

[63] Albert Wohlstetter, 'The delicate balance of terror' (1958), available at: {https://www.rand.org/pubs/papers/P1472.html}.

[64] Günther Anders, 'Theses for the Atomic Age', *The Massachusetts Review*, 3:3 (1962), pp. 493–505 (p. 493).

[65] John H. Herz, *International Politics in the Atomic Age* (New York: Columbia University Press, 1959), p. 22. Herz would later propose a new discipline of Survival Research to study how the human species could survive.

[66] Glenn Snyder, *Deterrence and Defense: A Theoretical Introduction* (Princeton, NJ: Princeton University Press, 1961), p. 64.

[67] Thomas C. Schelling, *Strategy of Conflict* (Cambridge, MA: Harvard University Press, 1960), p. 4.

[68] Herman Kahn, On Thermonuclear War, With a new introduction by Evan Jones (Abingdon and New York: Routledge, 2017), p. 41.

[69] Michael C. Williams, 'Rethinking the "logic" of deterrence,' *Alternatives: Global, Local, Political*, 17:1 (1992), pp. 67–93 (p. 68).

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and the concern, set out also by Hans Morgenthau, Jonathan Schell, and William Walker, that we stabilise our nuclear politics to give ourselves time enough to do so'.[70]

The circularity of debates on survival in a nuclear age also plays out in contests of deterrence versus disarmament.[71] This has resulted in an apparently irreducible division between two camps, the deterrers and the disarmers, who have accepted and reacted to this conundrum in opposing ways. Nick Ritchie has labelled these positions as two separate ontologies of nuclearism and anti-nuclearism that offer irreconcilable answers to the conundrum of nuclear survival.[72] Survival is thus the common foundation on which the contest between nuclear deterrence and disarmament politics occurs, in that the two positions propose antithetical solutions to the question of survival. By accepting survival as self-evident, however, they cannot resolve the conundrum and are therefore stuck in cycles of repetition of nuclear and anti-nuclear discourse. Itty Abraham has examined the cyclical dimension of nuclear weapons and their paradoxical and contradictory nature, which he ascribes to the fundamental ambivalence of nuclear technology. Abraham argues that, while nuclear politics has been structured around binaries of military and civilian and the promises of 'good' nuclear technologies versus their dangers, these binaries are 'transgressed repeatedly, in both directions'.[73]

I argue that this ambivalence both is heightened by and can be interrogated through the relationship between nuclear weapons and the logic of survival. Survival is the core paradox of the nuclear age and the heart of its ambivalence. This is because both state defence strategies and international law have justified nuclear war and potential annihilation through the ultimate goal of survival. This can be seen in the strategies of nuclear-armed states, who reserve the right to use nuclear weapons in service of survival, and in the texts of international treaties whose limit is the supreme interests of state parties.[74] It is also visible in the judgement of international law in which the legality or otherwise of using nuclear weapons reaches its boundary and becomes impossible to judge in cases in which 'the very survival of a State would be at stake'.[75] 'Survival' as an unspecified but taken-for-granted idea has thus become a goal in whose name anything, even nuclear war, is justifiable.

Survival and continuity in International Relations

> We are not just alive; at every moment we are still alive. Success is always until further notice; it is never final. It must be repeated over and over again, the effort can never grind to a halt. Survival is a life-long task. Its creative potential in never exhausted.[76]

It is not just nuclear weapons scholarship and politics that have become stuck in the paradox of survival in the thermonuclear age. This dilemma also affects how international politics can be

[70]Anthony Burke, 'Nuclear time: Temporal metaphors of the nuclear present', *Critical Studies on Security*, 4:1 (2016), pp. 73–90 (p. 79), referring to Brodie, *Strategy in the Missile Age*, p. 4.

[71]Laura Considine, 'The "standardization of catastrophe": Nuclear disarmament, the humanitarian initiative and the politics of the unthinkable', *European Journal of International Relations*, 23:3 (2017), pp. 681–702.

[72]Nick Ritchie, 'A contestation of nuclear ontologies: Resisting nuclearism and reimagining the politics of nuclear disarmament', *International Relations*, 38:4 (2024), pp. 492–515.

[73]Itty Abraham, '"Who's next?" Nuclear ambivalence and the contradictions of non-proliferation policy', *Economic and Political Weekly*, 45:43 (2010), pp. 48–56 (p. 52).

[74]This is visible in the withdrawal clauses of the international nuclear weapons treaties the Nuclear Non-Proliferation Treaty (NPT) and the Treaty on the Prohibition of Nuclear Weapons (TPNW), both of which refer to withdrawal from the treaty, thus implicitly re-legitimising nuclear weapons possession should 'extraordinary events, related to the subject matter of this Treaty, have jeopardized the supreme interests of its country'. Full texts available at: {https://disarmament.unoda.org/wmd/nuclear/npt/text/} and {https://documents.un.org/doc/undoc/gen/n17/209/73/pdf/n1720973.pdf}.

[75]In the 1996 International Court of Justice's Advisory Opinion on the Legality of the Threat or Use of Nuclear Weapons as discussed in the introduction. Available at: {https://www.icj-cij.org/sites/default/files/case-related/95/7497.pdf}.

[76]Zygmunt Bauman, 'Survival as a social construct', *Theory, Culture & Society*, 9:1 (1992), pp. 1–36 (p. 10).

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thought and complicates the grounding of its main theories. As Bauman notes in the quote above, survival is never done, there is no ending to or movement beyond survival. Philosopher Dieter Henrich writes of the Hobbesian drive for self-preservation as the 'fundamental concept' at the origins of modernity, as opposed to a prior teleological understanding of human nature and purpose.[77] According to Henrich, for the individual self-preservation has 'no goal, no rest towards which an essential striving could tend',[78] and, as such, 'happiness is not rest in the enjoyment of the goal, but the joy of continual success in attaining all things desired'.[79] Survival is continual self-reference, making and remaking itself and its desires through reproduction of itself as the referent of self-preservation. Henrich writes that 'to that extent, life is desire'.[80] As such, the goal of the Hobbesian state at the heart of the traditional IR theories, as the unification of the wills of its citizens, is not to fulfil an essential goal of its citizens but to '[make] sure that the will of all sustains itself and remains protected against annihilation even in the union with others, that this will can assert itself even better and be aware of a stronger power than it could in the state of nature'.[81] In this account, the state, as the union of wills of its citizens for self-preservation, is also continuous reproductive desire without rest or end. That survival is an unending process of self-making fits with the traditional account of the international as a space of stasis. Classical realist scholars understood IR as a space of repetition that relied on the endless movement yet endless sameness of survival in the 'long run'.[82] Yet the advent of the thermonuclear age required a rethinking of this account of international space and time. Andrew Hom explains the timing dilemma that the beginning of the nuclear age presented to the understanding of survival as repetition.[83] The threat of nuclear destruction 'meant that the very passage of time itself shortened that "long run" and turned "in the end" into, simply, the end'. Nuclear violence was both concentrated in time and concentrated time.[84] As such, the invention of nuclear weapons presented a challenge to theories of IR based on survival as repetition.

The challenge of nuclear weapons to classic theories of IR has been most engaged with in the work of scholars of the 'nuclear revolution' who argued that the international system could not withstand the disruption of thermonuclear weapons to its logics of anarchy and repetition.[85] Some theorists of the nuclear revolution responded to this disruption by arguing that the state was no longer able to guarantee the survival of its citizens and therefore needed to be superseded by a world government that would be able to regain a monopoly on violence in its territory through global control over nuclear weapons.[86] Yet, despite the predictions of thermonuclear revolution and calls for the creation of a world state in response, what has happened since is neither a world state nor apocalypse. Everything changed, and nothing changed, as the position of survival in prominent IR theories was not ruptured by the advent of nuclear weapons. Instead, nuclear weapons were incorporated into an unchanged understanding of the international and the state through the logic of deterrence. As feminist theorist and physicist Karen Barad writes, nuclear time became 'time fixated on its own dissolution'.[87] It is 'synchronised to the apocalypse-to-come, and the present is

[77] Dieter Henrich, 'The basic structure of modern philosophy', *Cultural Hermeneutics*, 2 (1974), pp. 1–18 (p. 4).

[78] Henrich, 'The basic structure of modern philosophy', p. 1.

[79] Henrich, 'The basic structure of modern philosophy', p. 2.

[80] Henrich, 'The basic structure of modern philosophy'.

[81] Henrich, 'The basic structure of modern philosophy'.

[82] Andrew R. Hom, *International Relations and the Problem of Time* (Oxford: Oxford University Press, 2020), p. 120.

[83] Hom, *International Relations and the Problem of Time*, p. 120.

[84] Daniel Deudney, 'Nuclear weapons and the waning of the real-state', *Daedalus*, 124:2 (1995), pp. 209–31.

[85] See Craig, *Glimmer of a New Leviathan*; Herz, *International Politics in the Atomic Age*; Jervis, *The Meaning of the Nuclear Revolution*.

[86] See for example Campbell Craig, 'Solving the nuclear dilemma: Is a world state necessary?', *Journal of International Political Theory*, 15:3 (2019) pp. 349–66; Deudney, 'Nuclear weapons and the waning of the real-state'.

[87] Karen Barad, 'Troubling time/s and ecologies of nothingness: Re-turning, re-membering, and facing the incalculable', *New Formations*, 92:1 (2017), pp. 56–86 (p. 58).

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caught in a pose of holding its breath in an attempt to forestall the onset of nuclear war, as if it had ever been a thing of the past'.[88] As such, IR generally ignored broader implications of thermonuclear destruction for dominant assumptions about survival and continuity, while mutual destruction became the ultimate means of survival.

Survival/annihilation's inclusions and exclusions

The previous section argued that, while survival has been used as the justification for both nuclear weapons possession and their use, there is no agreement on what that means, it is just taken for granted. If survival is not self-evident and its positive purpose and meaning has become fraught with contradiction in the age of thermonuclear war, then one way forward could be to focus on, as Kahn says, 'what we are trying to avoid even if we cannot agree on what we are for'.[89] We ostensibly at least can agree on what we don't want to happen: nuclear apocalypse. Yet scholars have already argued that apocalypse as survival's negation is unimaginable within the conceptual confines of IR.[90] There have been many attempts to convey nuclear extinction. States, anti-nuclear campaigners, and humanitarian organisations have created various types of accounts of death counts, areas destroyed, mass injuries, infrastructure obliterated, environments despoiled, but, despite the enumeration of horrors, such descriptions still '[domesticate] an image of a postnuclear world that "stands in" for the inevitable failure of the imagination to be able to conceive of the end'.[91] Jonathan Schell's 'Fate of the Earth' provides possibly the best-known account of what would happen in a nuclear war, but even with all the effort to describe the aftermath of a nuclear attack in detail, Schell states that really the only vantage point from which to view such an event is that 'of a corpse'.[92] Work on the idea of 'nukespeak' in the 1980s argued that the abstract technological and strategic language of nuclear weapons creates a false reality that sanitises their violent capacity. All of these arguments and more have claimed that there is something that cannot or has not been captured by the representation of nuclear weapons. Anders outlines the problem of position in understanding nuclear ending because 'what we have to visualize today is not the not-being of something particular within a framework, the existence of which can be taken for granted, but the nonexistence of this framework itself, of the world as a whole, at least of the world as mankind'.[93] The literature on nukespeak implies that one could capture the reality of these weapons if one would only speak the right language. In other approaches and in much anti-nuclear campaigning, it is rather that the catastrophic violence of the nuclear is ultimately unspeakable in any words. William Chaloupka counters this rhetoric of the 'unspeakability' of nuclear war by deconstructing the idea of unspeakability and the political work that it does, drawing on Derrida's claim that nuclear weapons are 'fabulously textual'[94] to argue that indeed nuclear weapons are more spoken than any other weapons.[95] What all of this indicates is the foundational problem of making meaning of the extreme possibilities of a nuclear age.

Beyond the general limits of understanding annihilation and thus survival as its negation are more particular issues about how and when survival and annihilation are used as categories and

[88] Barad, 'Troubling time/s and ecologies of nothingness', p. 58.

[89] Kahn, *On Thermonuclear War, p. 7.*

[90] Audra Mitchell, 'Beyond biodiversity and species: Problematizing extinction', *Theory, Culture & Society*, 33:5 (2016), pp. 23–42.

[91] Joseph Masco, '"Survival is your business": Engineering ruins and affect in nuclear America', *Cultural Anthropology*, 23:2 (2008), pp. 361–98 (p. 382).

[92] Jonathan Schell, *The Fate of the Earth* (New York: Alfred A. Knopf, 1982).

[93] Anders, 'Theses for the Atomic Age', p. 496.

[94] Jacques Derrida, Catherine Porter, and Philip Lewis, 'No apocalypse, not now (full speed ahead, seven missiles, seven missives)', *Diacritics*, 14:2 (1984), pp. 20–31 (p. 23).

[95] William Chaloupka, *Knowing Nukes: The Politics and Culture of the Atom* (Minneapolis: University of Minnesota Press, 1992), p. 10.

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who and what they encompass and exclude. A previous section quoted Hedley Bull's assertion that the nuclear era prioritises the question of 'our own survival' over anything else.[96] Uninterrogated here is whose survival is included in 'our own'. Scholars, policymakers, and activists have taken very different answers to these questions over the past decades. The Cold War strategists of the thermonuclear age accepted the nation state as the object of survival and attempted to determine what meaningful state survival of the United States and the Soviet Union would look like and require. This approach to the object of survival/annihilation in a Cold War vacuum is exemplified by Robert Oppenheimer's famous likening of the thermonuclear age to 'a state of affairs in which two great powers will each be in a position to put an end to the civilization and life of the other, though not without risking its own. We may be likened to two scorpions in a bottle, each capable of killing the other, but only at the risk of his own life.'[97] The analogy is striking, but of course there was and is no bottle, no containment of the scorpion's sting to the adversary. The end of 'civilisation' is not limited to 'the life of the other' and 'its own'. Such a conception of annihilation describes totality but equates totality with the destruction of great powers. This is not to say that such descriptions are ignorant of the extent of the impacts of thermonuclear war, but rather that there is an assumption that the end of certain forms of life are the end of everything. What is implicit in these accounts is that survival did not become universal as it enveloped the world but as it enveloped the West, its civilisation, and its adversaries.[98]

Chaloupka argues that survival itself is active in obscuring certain forms of nuclear violence, in that it is 'a coded position that privileges certain questions and marginalizes others'.[99] Research in areas such as nuclear colonialism, nuclear geography, Pacific and other area studies, and feminist nuclear studies have made robust critiques of understanding nuclear weapons solely through the lens of preventing nuclear apocalypse. Such work has forcefully shown how traditional nuclear studies and its preoccupation with survival and nuclear deterrence elides the vast and messy reality of nuclear weapons as the product of a sprawling military-techno-industrial complex with thousands of sites around the world, each of which are embedded into economies, communities, environments, and societies.[100] Annihilation smooths out nuclear violence. While we all live with the potential for nuclear catastrophe, we have not all been harmed to the same extent by nuclear weapons. This harm has included the marginalisation of the impact of decades of nuclear weapons testing through the acceptance of the idea that nuclear weapons have not been used since Hiroshima and Nagasaki.[101] That the over 2,000 nuclear weapons tests conducted since 1945 are not classified as nuclear weapons use is, according to Ruoyu Li, a political classification rather than a technical one.[102] Rebecca Oh has engaged with the questions raised by ideas of nuclear survival and apocalypse by using the concept of 'apocalyptic realism'.[103] Apocalyptic realism questions the assumption that catastrophe lurks in the future, arguing that 'outside of the perspective of global

[96] Bull, 'Strategic studies and its critics'.

[97] J. Robert Oppenheimer, 'Atomic weapons and American policy,' *Bulletin of the Atomic Scientists*, 9:6 (1953), pp. 202–5.

[98] See also Audra Mitchell and Aadita Chaudhury 'Worlding beyond "the" "end" of "the world": White apocalyptic visions and BIPOC futurisms', *International Relations*, 34:3 (2020), pp. 309–32.

[99] Chaloupka, *Knowing Nukes*, p. 2. See also Jairus Victor Grove, *Savage Ecology: War and Geopolitics at the End of the World* (Durham, NC: Duke University Press, 2019).

[100] This work includes but it not limited to Becky Alexis-Martin, *Disarming Doomsday: The Human Impact of Nuclear Weapons since Hiroshima* (London: Pluto Press, 2019); Teaiwa, 'bikinis and other s/pacific n/oceans'; Anne Sisson Runyan, 'Indigenous women's resistances at the start and end of the nuclear fuel chain', *International Affairs*, 98:4 (2022), pp. 1149–67; Robert Jacobs, 'Nuclear conquistadors: Military colonialism in nuclear test site selection during the Cold War', *Asian Journal of Peacebuilding*, 1:2 (2013), pp. 157–77; Kate Brown, *Plutopia: Nuclear Families, Atomic Cities, and the Great Soviet and American Plutonium Disasters* (Oxford and New York: Oxford University Press, 2013).

[101] Just counting the US tests in the Pacific between 1946 and 1958, the equivalent of 1.6 Hiroshima-sized bombs per day were exploded for 12 years. See {https://www.washingtonpost.com/sf/national/2015/11/27/a-ground-zero-forgotten/}.

[102] Ruoyu Li, 'Testing as the blindspot of nuclear nonuse', *Security Studies*, 33:3 (2024), pp. 348–71.

[103] Rebecca S. Oh, 'Apocalyptic realism: "A new category of the event"', *ISLE: Interdisciplinary Studies in Literature and Environment*, 29:4 (2022), pp. 967–86. See also Barad, 'Troubling time/s and ecologies of nothingness', p. 59.

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hegemons, apocalypse is often history'.[104] For those whose worlds have been destroyed by settler colonialism, racialised violence, and extractive nuclear industries, multiple worlds have ended, and 'survival' is an everyday issue rather than an abstract aim. There are already those who have not survived the atomic age.

The survival of 'humanity'

Disarmament advocates have responded to the exclusions of state-focused accounts to argue for an expansion of the referent of survival to include 'humanity'.[105] For example, the Humanitarian Pledge, which came out of the 2014 Vienna Conference on the Humanitarian Impact of Nuclear Weapons and formed a grounding for the Treaty on the Prohibition of Nuclear Weapons, states that: 'the immediate, mid- and long-term consequences of a nuclear weapon explosion are significantly graver than it was understood in the past and will not be constrained by national borders but have regional or even global effects, potentially threatening the survival of humanity'.[106] This form of humanitarian anti-nuclearism is open to the criticism Mitchell makes of IR in general, that it is 'dominated by a profound anthropocentrism that renders Western secular images of humanity the focal point of cosmology, the sole source of agency and the referent of all ethical action'.[107] 'Humanity' as a referent also assumes a given body that is equally at risk and harmed and who needs to be protected against some ever-present future threat. As such, and while providing a more inclusive understanding of survival that encompasses multiple nuclear harms, enabling political action in new spaces and by new actors, it nonetheless remains within the logic of survival. Chaloupka focuses on anti-nuclear calls for abolition in the name of the survival of the human 'species', which assumes a natural and common 'species' interest. Grounding an anti-nuclear politics on the survival of the species is a political act that constitutes the life that it identifies as worth continuing. This results in a circularity of purpose and outcome in that the source of the claimed species interest is also the source of the threat to survival:

> For the species to act on the goal of survival embroils us in a simplistic, if still powerful, circle. The species must have always had some motivation to survive as a species, but its commitment to certain practices (especially rationality and science) is both unquestionable and the source of the threat amidst which the species finds itself lodged.[108]

This circularity, Chaloupka argues, is one that the 'species survival position cannot be comfortable in emphasizing', but without doing so it 'can scarcely discuss the nuclear age at all'.[109]

The survival of the weapon

Feminist work has suggested that it is, in fact, difficult, within the structures and language of nuclear strategy, to comprehend whose or what's survival is at stake beyond that of the weapons themselves. In 1987, Carol Cohn, after a study of the language of nuclear strategists in the US, argued that

[104] Oh, 'Apocalyptic realism', p. 968.

[105] Hans Morgenthau also explains annihilation and survival in terms of the reproduction of humanity through the preservation of the archive. Previously, individual death could be partially transcended in through the creation of a historical archive going into the past and the future as well as through biological reproduction. While the individual may be mortal, therefore, 'humanity is not'. Hans J. Morgenthau, 'Death in the nuclear age', *Commentary Magazine* (1961). Available at: {https://www.commentary.org/articles/hans-morgenthau/death-in-the-nuclear-age/}.

[106] Available at: {https://www.bmeia.gv.at/fileadmin/user_upload/Zentrale/Aussenpolitik/Abruestung/HINW14/HINW14vienna_Pledge_Document.pdf}. The framing of disarmament for humanity is very common. Other examples include the United Nations Agenda for disarmament, in which the issue of WMD is framed as 'disarmament to save humanity'. See: {https://front.un-arm.org/wp-content/uploads/2018/06/sg-disarmament-agenda-pubs-page.pdf}. The Elders assert that 'nuclear weapons pose and existential threat to humanity'; see: {https://theelders.org/programmes/nuclear-non-proliferation-and-disarmament}.

[107] Mitchell, 'Is IR going extinct?', p. 12.

[108] Chaloupka, *Knowing Nukes*, p. 7.

[109] Chaloupka, *Knowing Nukes*, p. 7.

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the weapons themselves were the referent of strategic nuclear discourse.[110] It is the survival of the weapons, not people or even states, that forms the basis of nuclear strategy, in that survivability is thought of primarily in terms of missiles. When one reads texts on deterrence, survivability refers to ICBMs, submarines, and bombers. The weapons need to survive. This is not to say that deterrence strategists explicitly call for or believe in the destruction of people over the weapons; in fact, several clearly state that protecting people is paramount. For example, Brodie writes that, fundamentally, the weapons are only a means to an end in the protection of the population.[111] There are two points to be made here: first, that it is interesting that the strategists felt the need to have to express this; and second, that, despite and after expressing it, they go on to develop policy that either prioritises the survival of weapons or accepts vast numbers of deaths as tolerable as long as second-strike capability is maintained. It is not that the strategists *decide* that the weapons are the referent, it is that the logic of nuclear strategy in the context of survival and annihilation simply doesn't allow it to be otherwise. If the weapon itself has become the referent of survival, then the weapons do not exist to protect the state or the individual; both exist to protect the weapons.

That the weapon itself is the referent of survival also links to recent work by Jacques Hymans on the power of a common conceptual metaphor for nuclear weapons as God. Hymans argues that a metaphor of 'the Bomb as god' has sedimented across several nuclear cultures and contributed to how nuclear weapons have become embedded in nuclear state politics.[112] The cognitive framing of the god metaphor shapes decision-making in nuclear states and contributes to an inability to envision nuclear renunciation as a feasible policy. Previous scholarship by Shampa Biswas and Anne Harrington has expressed this deification of the nuclear weapon in terms of nuclear desire and fetishisation.[113]

Weapons of mass survival

Himadeep Muppidi asks the question of 'who forms the mass in mass destruction' to push the reader to rethink what he describes as its 'deadened meaning'.[114] 'Mass' is in itself an undifferentiated thing; it is an amalgamation and reduction to a whole. Muppidi quotes Achille Mbembe's assertion of race as dissolving individual people into things and objects of exchange value,[115] with the 'absolute dissolution' into mass as 'the apotheosis of colonial force'.[116] The 'thingification' of racialised populations transforms them into masses that are the subject of destruction. As such, mass conceals and silences violent multitudes. Rethinking the 'deadened' meaning of mass in nuclear discourse exposes the question of whose or what's survival must be assured amid mass destruction. Muppidi describes the extreme 'thingification' effects of the nuclear weapon dropped on Hiroshima:

> Distinctly separable beings congeal into a mass: women, schoolchildren, soldiers, toddlers, combatants, non-combatants, Japanese, Koreans, American POWs, pacifists, warmongers, militarists, monarchists, poets, professors, horses, dogs, cats, trees are all fused into a common lump materiality. The major part of that lump evaporates (testifying to the dissolving power of the atom bomb) while the minor parts continue as 'mere substance' (testifying to its residual and enduring effects).[117]

[110] Carol Cohn, 'Sex and death in the rational world of defense intellectuals', *Signs*, 12:4 (1987), pp. 687–718.

[111] Brodie, *Strategy in the Missile Age*, p. 205.

[112] Jacques E. C. Hymans, 'The Bomb as God: A Metaphor That Impedes Nuclear Disarmament', *Security Studies*, 33:1 (2023), pp. 1–29.

[113] Biswas, *Nuclear Desire*; Anne Harrington, 'Nuclear weapons as the currency of power: Deconstructing the fetishism of force', *The Nonproliferation Review*, 16:3 (2009), pp. 325–45.

[114] Himadeep Muppidi, 'Who forms the mass in mass destruction?', *Review of International Studies*, 49:4 (2023), p. 549.

[115] Achille Mbembe, *Critique of Black Reason*, trans. Laurent Dubois (Durham, NC: Duke University Press, 2017), p. 11.

[116] Muppidi, 'Who forms the mass in mass destruction?', p. 553.

[117] Muppidi, 'Who forms the mass in mass destruction?', p. 554.

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Many Hibakusha, the survivors of the bombings of Hiroshima and Nagasaki, have spent decades telling their stories in an attempt to overcome the 'thingification' of mass nuclear destruction and the stigma that accompanied being a 'survivor' of nuclear bombing.

The different discourses and referents of survival above illustrate that it is not at all straightforward to agree on what survival means as the principal aim of nuclear politics. Instead, asking the question of 'whose survival' exposes what Bauman describes as its relative nature. He writes that 'survival is targeted on others, not on the self. We never live through our own death; but we do live through the deaths of the others, and their death gives meaning to our success: we are still alive.'[118] Thinking about survival as meaningful in relation to others who do not survive gives a heightened significance to contestation of the object of survival. What can and should be sacrificed for relative survival and how might this be measured? In deterrence theory, often the calculation of sacrifice involves a projected death toll. This mode of judgement is not unique to nuclear weapons, and previous work has studied the politics of counting dead bodies,[119] but the significance of body counts is distorted by the nuclear context. This is because the body counts of nuclear deterrence strategy are as yet hypothetical ones.[120] As such, the mass body counts of thermonuclear war perform the role of stand-in for the inability to imagine annihilation and thus provide a measure against which one can understand survival. Bauman's argument is that survival is given meaning relative to another. In an age of thermonuclear destruction, the death that 'gives meaning'[121] to mass survival is mass annihilation.

Conclusion

> Now that the human species faces its own annihilation and does so precisely because it has remained committed absolutely to its own survival as uniquely human and blessed with a duty to live that distinguishes it from other species, quite different questions from that of *self*-maintenance, normative consistency and the necessity of living on need to be addressed.[122]

The core contribution of this article has been to claim that survival as a concept is taken as a generally unquestioned ground on which to base nuclear weapons politics, and IR more broadly, and to argue that this should be problematised. Nuclear strategy, politics, and law have been built on the idea of survival as its exception point, as if this is something that is self-evident, but there is no understanding of what survival means. It is important to question what survival as a concept is doing within the structures of nuclear weapons discourse and to think about how the centrality of survival conditions the potential for nuclear politics. The article has based this claim on the argument that 'survival' is neither a self-evident state and pre-political goal that can act as a grounding for politics, nor an empty signifier that provides a neutral vessel for political contestation. Nuclear weapons heighten questions of survival and politics not just because of their potential to produce omnicide – 'the killing of all humans by some humans'[123] – but because this omnicidal potential is the very justification for their continued existence through the maintenance of nuclear deterrence. As such, the logic of a thermonuclear age is that the grounding of survival relies upon the threat of its ending, and so we live in a world in which the ultimate power and right of the sovereign state is to completely destroy itself. This right has been enshrined in military doctrines, national and

[118] Bauman, 'Survival as a social construct', p. 10.

[119] For work that interrogates the political meaning of death tolls, see Jessica Auchter, 'Paying attention to dead bodies: The future of Security Studies?', *Journal of Global Security Studies*, 1:1 (2016), pp. 36–50.

[120] This is not to ignore the mass deaths of Hiroshima and Nagasaki, which were prior to the development of nuclear strategy and the thermonuclear revolution. Actual deaths caused by nuclear weapons production and testing are also not part of this strategic calculation.

[121] Bauman, 'Survival as a social construct', p. 10.

[122] Claire Colebrook, *Sex after Life: Essays on Extinction*, Volume Two (University of Michigan Library Ann Arbor: Open Humanities Press, 2014), p. 138.

[123] John Somerville, 'Einstein's legacy and nuclear omnicide', *Peace Research*, 18:1 (1986), pp. 20–58 (p. 24).

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international law, vast global infrastructures and economies, and security imaginaries. The article has argued that the advent of the nuclear age has thereby led to a dilemma for international politics in that survival is now guaranteed through the threat of its total negation. Thus 'survival' can be used as a justification for any action up to and including total nuclear war.

Perhaps it is not possible to easily step outside of survival given its place, according to Henrich, as the ground of modern thought. But we might recognise and examine its force as a means of opening up space and possibility for a politics that could challenge some of its impacts and constraints. Work in philosophy, for example, has already begun to question the logic of survival more broadly, as seen in the quote from ecofeminist Claire Colebrook above. Colebrook's delineation of ethics as self-creation chimes both with Odysseos's argument that IR realist theorising contains an 'ethos' of danger towards the other and with Henrich's discussion of survival as continuous self-reference and reproduction of oneself as the object of self-preservation. Colebrook claims that it is in fact the absolute commitment to survival, what Mitchell terms 'the fetishism of survival',[124] that creates the very threat of annihilation. As such, survival as a reproductive force forms a shaky foundation for a time when the world around us demonstrates quite clearly that the forces that brought us here will not save us from their consequences. These debates are broad and fundamental ones; my contribution is simply to say that they must recognise the importance of the existence of nuclear weapons, which is where the logic of survival reaches its zenith. If the continuing striving for self-identification and self-preservation is the ultimate goal of the logic of survival, and if that survival is premised on total destruction in the thermonuclear age, then we are left in a constant mode of crisis.

The article has therefore argued that an engagement with nuclear politics is the key place to start any further interrogation of the logic and limits of survival in the discipline of IR. Yet there has been a lessening engagement with nuclear weapons and their impacts on international theories and structures by IR scholars. In fact, there has been surprisingly little academic work theorising the relations between nuclear weapons, the state, and international politics over the past decades that has gone beyond accepting nuclear weapons into an unchanged international system and attempting to use the tools of this system to manage their dangers. The Cold War saw the proliferation of theories and strategies of deterrence in almost as great a number as the weapons. Theoretical work that engaged with what these weapons meant for sovereignty, the state, and the international itself did not develop to the same extent after the early years of the nuclear age. Critical interrogations of its core assumptions are not only important for nuclear politics, but also reach far beyond the nuclear sphere into the heart of International Relations.

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Laura Considine is an Associate Professor in International Politics at the University of Leeds. Her current work focuses on conceptualizing nuclear weapons in international politics and International Relations theory, feminist and everyday approaches to nuclear weapons, and nuclear narratives.

[124] Mitchell, 'Is IR going extinct?', p. 18.

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