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Power, violence, and nuclear weapons

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This article contributes to an ongoing debate about the role of the thermonuclear revolution in realist thought and the viability of nuclear disarmament. Drawing on the work of Hannah Arendt, it develops an immanent critique of balance-of-power theories of international politics. Immanent critique is a diagnostic process. It takes a thought system on its own terms and by revealing its contradictions from within, opens up new possibilities for transformation. This critique reveals how the ontological assumptions Kenneth Waltz makes about the nature of power allowed him, in the guise of an apolitical theory, to transform the violence of nuclear weapons from a threat to humanity into a source of security, and therefore a normative good. According to the logic of this argument, thinking past the limits of this thought system will necessarily need to include questioning and otherwise disrupting the tight association between violence and power.

Keywords: nuclear deterrence; realism; disarmament; Morgenthau; Waltz; Arendt

1. Introduction

There is a profound chasm that divides the international community of nuclear experts. On one side, there are nuclear deterrence strategists who perceive the goal of nuclear disarmament to be utopian at best and dangerous at worst. On the other are nuclear abolitionists who argue that the existence of nuclear weapons is a threat to the survival of human civilization. Both camps are united by their desire to prevent nuclear annihilation, but they come to very different conclusions about the best way to achieve that goal. Deterrence advocates argue that preparing to fight a nuclear war is the best way to prevent one. Even for those in the so-called ‘warfighting’ camp who are famous for arguing that ‘nuclear victory is possible,’ their immediate purpose is not to fight and win a nuclear war, but rather to shore up the bedrock of an effective deterrent: the credibility of the threat to answer military aggression with retaliation in kind.¹ From this perspective, maintaining an ever-ready and securely stored nuclear arsenal is what stands between humanity and nuclear war. In contrast, nuclear abolitionists perceive nuclear weapons themselves as the primary threat to humanity. The very existence of the weapon brings with it the danger of nuclear annihilation, whether by accident or by design. Eliminating nuclear weapons, therefore, is an ethical imperative and all reductions in their number serve the greater good.

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As I will explain, this chasm runs particularly deep within the U.S. community of nuclear experts.² The renaissance in disarmament politics fueled by the Obama administration's embrace of a world without nuclear weapons has spurred policy-oriented research on disarmament at think tanks and interdisciplinary university centers (Kelleher and Reppy 2011; Shultz, Drell, and Goodby 2010; Perkovich and Acton 2008; Obama 2009).³ However, it is still widely taken for granted by American School International Relations (IR) scholars that nuclear deterrence is a more realistic alternative than disarmament (Levine and Barder 2014). Realist scholars, in particular, credit nuclear weapons with keeping the 'long peace' of the Cold War and continue to dismiss multilateral arms control initiatives central to the nuclear disarmament agenda, including the Nonproliferation Treaty (NPT), the Comprehensive Test Ban Treaty (CTBT), and the Fissile Material Cut-Off Treaty (FMCT), as largely irrelevant (Lebow 1994).

Although today it is easy for realists to argue that nuclear deterrence is an effective strategy, deterrence was not always considered a realistic response to the thermonuclear revolution. In the 1950s and 1960s there was no evidence on which to base claims that the arms race between the United States and the Soviet Union would end peacefully. On the contrary, after the Anglo-German naval race culminated in World War I, arms races were widely believed to be a primary cause of war (Trachtenberg 1991). General Curtis Lemay found the idea of bombs that existed for the purpose of preventing their use laughable, and the most influential IR theorist of the era, the classical realist Hans Morgenthau, came to the conclusion that a world state was as realistic as a nuclear arms race that ended peacefully through deterrence (Kaplan 1991; Morgenthau 1961). Yet, based on deductive models of interstate relations, and against all evidence to the contrary, nuclear strategists at RAND argued that the best way to prevent a nuclear war was to prepare to fight one, and that the primary purpose of producing these new weapons must be to prevent their use (Brodie 1946).⁴

Over the course of the early decades of the Cold War realist scholars went from being nuclear abolitionists to advocates of nuclear deterrence. In this article, I explore the question of how Waltzian neorealists were able to cross to the other side of chasm separating nuclear abolitionists from deterrence advocates. Why was Morgenthau unable to reconcile balance-of-power politics with the thermonuclear revolution, while neorealists have come to terms with nuclear deterrence theory? I argue that the key link is found in the ontological assumptions that Kenneth Waltz – in direct opposition to Morgenthau – makes about the nature of power. At the core of the argument is the claim that the ontological assumptions that Waltz makes about the nature of power allowed him, in the guise of an apolitical theory, to transform the violence of nuclear weapons from a threat to humanity into a source of security, and therefore a normative good.

This argument contributes to a conversation among critical realists about what constitutes a realist response to the thermonuclear revolution. In this article, I focus in particular on the contributions of Campbell Craig, Rens van Munster, and Casper Sylvest, who reach back to the formative period of the thermonuclear revolution when scholars were first making sense of what nuclear weapons meant for international politics. Craig looks at the work of classical realists, while van Munster and Sylvest concentrate on a quartet of disarmament advocates they retrospectively label 'nuclear realists.' (Craig 2003; van Munster and Sylvest 2014) These critical realists contest Waltz's claim to have reconciled balance-of-power theory with the thermonuclear revolution and seek to reappropriate the realist moniker for the nuclear abolitionists.

While I share many of their broader conclusions, I question whether or not a return to realism is the way forward. In this article, I concentrate on what might be occluded or lost occluded by recovering a realist framework for the politics of nuclear abolition. I develop an immanent critique, not only of neorealism, but also of balance-of-power theories more broadly. Instead of the classical or nuclear realists, I return to the late 1960s and the work of Arendt (1969, 56), who warns us that ‘Violence can destroy power; it is utterly incapable of creating it.’

The first section of the article is a discussion of the significance of this argument for disarmament politics; the second section is an immanent critique of Waltzian neorealism. In the third section, I draw out the implication of this critique for the project of recovering realist thought about nuclear disarmament, turning to the work of Arendt to set out the conceptual framework for an alternative vision.

2. American School IR and the disciplinary politics of nuclear disarmament

The argument in this article adds to a lengthy conversation among IR scholars about Morgenthau, Waltz and the transition from classical to neorealism (Behr and Heath 2009; Bessner and Guillhot 2015; Booth 2011; Frei 2001; Scheuerman 2009; Williams 2007). While many in the critical security studies community have already moved beyond debates about the limitations of Waltzian neorealism, and may question the import of explicating the link between neorealism and nuclear deterrence theory, despite the renaissance in disarmament politics, there is relatively little theoretical being done on nuclear issues. As van Munster and Sylvest observe (2014, 2–3), ‘Among activists, former Cold Warriors and contemporary leaders in world politics, there is a resurgent interest in nuclear disarmament. . . Unfortunately, the field of critical security studies, which claims an interest in emancipatory transformation, demilitarization and desecuritization, has been slow to catch up with these developments.’⁵ This is, however, changing. By unpacking the tight association between neorealism and deterrence theory, this article contributes to the growing critical debate about nuclear issues. (Biswas 2014; Burke 2009; Craig and Ruzicka 2013; Mutimer 2011).

This article also fills a gap by contributing tools to the broader project of creating alternative conceptual structures to compete with realism and deterrence theory (Deudney 2008; Feiveso et al. 2014; Ritchie 2013; Senn and Elhardt 2014). Whereas there is a vibrant and ongoing academic debate in the United States about nuclear deterrence and nonproliferation, the hegemony of neorealism and deterrence theory in American School IR plays an important role in marginalizing discussion of disarmament at the level of theory. There is little room for the type of critical, emancipatory work that would support a theory of disarmament because American School IR proceeds largely as if the critical IR debate did not exist (Levine and Barder 2014; Barder and Levine 2012). Unlike in Europe where the constructivist challenge developed into a major self-reflective debate, in the United States it evolved into a question of testing the influence of ideational variables (Wæver and Buzan 2012, 428). American School constructivism propped up and played within the existing epistemological rules of the disciplinary game. As a result, rather than dethroning neorealism, constructivists reinforced neorealism’s position within the paradigm wars and re-inscribed the exclusion of critical approaches (Wæver 2009; Wendt 1999).⁶ As Ole Wæver and Buzan (2012, 418) have noted: ‘Go to most departments in the USA or the leading journals, such as *International Security* and *Security Studies*, and most scholars there would say “who?” and “what?” about authors intensely discussed by a large number of scholars especially in Europe and parts of the developing world.’⁷

Rather than in political science departments, the American intellectual debate about nuclear abolition takes place primarily in the interdisciplinary domain of think tanks and policy-oriented university centers, where American School IR's claim to speak with scientific authority is continually disrupted.⁸ In these interdisciplinary contexts, the demand for policy relevance means that scholars are able to sidestep the strictures of the IR paradigm wars by designing policy-relevant research projects that might otherwise be precluded by dominant theoretical lenses. Furthermore, the presence of physical scientists, who often take issue with the political scientists' adaptation of the scientific method to the study of international politics, disrupts methodological and epistemological hierarchies. The physical scientists' claim to expert authority on what constitutes science opens up the discourse to critical and historical methods typically precluded by the disciplinary strictures of American School IR (Stewart 2003; Levine and Barder 2014).⁹

Yet, these interdisciplinary communities have boundaries of their own. The drumbeat of policy relevance and the need to specify immediate implications makes abstract theoretical work, work that might compete for dominance with deterrence theory, difficult to sustain. Unlike in the 'golden age of deterrence theory' (from 1945 until the mid-1960s) when a similar interdisciplinary environment at RAND gave rise to a host of novel concepts that are now taken for granted as fundamentals of U.S. security discourse – deterrence, first-strike versus second-strike capabilities, counterforce versus countervalue targeting, strategic stability – there is less space for sustained research aimed at developing alternative conceptual systems in today's environment (Wæver and Buzan 2012).

Despite high hopes that the Obama administration's disarmament initiative would provide the basis for a global shift in nuclear politics, arguably the renaissance in disarmament politics has already begun to disappear into the chasm dividing those who consider deterrence the only realistic alternative from those who consider working toward the goal of nuclear elimination an ethical imperative. With the exception of concluding the bilateral New Start Treaty with Russia, which reduces deployed warheads to 1550 respectively, and the completion of a series of Nuclear Security Summits aimed at securing nuclear material worldwide, the Obama administration made little progress on the agenda that the President laid out in Prague (Pifer 2015; Woolf 2016). The extreme gap between expectations and results that has opened up under the Obama administration is apparent in the growth of the Humanitarian Initiative, a group of 159 NPT non-nuclear weapon states who have organized around a proposed ban on nuclear weapons, motivated by a perceived lack of progress on the NPT disarmament agenda (Squassoni 2014). Moreover, following on a successful 2010 NPT review conference, the 2015 conference collapsed over the question of a Middle East disarmament conference (Johnson 2015).

Without a strong foothold at academic institutions in the United States (where tenured faculty have the intellectual freedom to focus on the *longue durée*), and as the soft money that fuels the world of think tanks and university centers flows back towards its Cold War era focus on the more 'realistic' goals of nuclear nonproliferation and strategic stability through arms control and deterrence, even nuts and bolts research on nuclear abolition is likely to be stifled by a perceived lack of policy relevance (Harrington de Santana 2011). Sustaining intellectual work on nuclear disarmament issues within a global critical community is therefore likely to become even more important.

3. The balance of power in a nuclear-armed world

In this section, I argue that Waltz's treatment of power enables him to focus on some aspects of the materiality of nuclear weapons, while at the same time occluding others.

Waltz obviates the logical contradiction of pursuing national security through the threat of mutual assured destruction by reformulating the concept of power to eliminate ‘the struggle for power’ (and therefore the inevitability of deterrence failure). Power for Waltz is not an experience you achieve, but rather functions like a substance or object that you either have or do not. By reformulating power in this way, Waltz brings balance-of-power theory in line with the assumptions about power implicit in Thomas Schelling’s deterrence theory. This shift in the concept of power also transforms the normative valence of nuclear weapons within realist thought. By fundamentally altering the core ontological assumptions about the nature of power, Waltz transforms nuclear weapons from a threat to humanity into the ultimate source of national security.

Campbell Craig’s history of total war in realist thought, *Glimmer of a New Leviathan* (2003), opens with the following simple, yet compelling observation: ‘The idea that thermonuclear war can put an end to everything plays a strikingly small part in the history of formal American thinking about international politics.’ He finds it puzzling that some of the most influential texts in the field of IR – including for instance Barry Buzan and Richard Little’s *International Systems in World History* (2000), John Mearsheimer’s *Tragedy of Great Power Politics* (2003), and Alexander Wendt’s *A Social Theory of International Politics* (1999) – treat the thermonuclear revolution as peripheral to international politics. Why and how is it, he asks, that a technology that shook the foundations of strategic thought came to be merely another feature of international politics?

At the most general level, Craig’s explanation for the indifference to the possibility of nuclear annihilation is that most IR scholars exhibit a sanguine confidence in the effectiveness of nuclear deterrence, a confidence that Craig concludes is unwarranted. Following Scott Sagan’s *The Limits of Safety* (1995), Craig argues that the complex organizational systems underlying declaratory nuclear policy are fragile, and as history reveals, prone to failure. Specifically, Craig disputes the perception that the paradigm shift from classical realism to neorealism resolved the dilemma of thermonuclear nuclear war for state-based theories of balance-of-power politics. Instead he argues that there was no ‘paradigm shift’ in the Copernican sense. The Waltzian neorealist turn did not explain an aberrant phenomenon; thermonuclear war as the *ultima ratio* of international politics does not make any more sense today than it did for classical realists. While allowing that Kenneth Waltz’s arguments are theoretically sound, Craig argues that neorealism does not, as Waltz maintains, merely describe the objective conditions of international politics. It also functions as a normative claim about what Waltz wants (and needs) to be true. In order to reconcile balance-of-power theory with the specter of thermonuclear war, one has to accept, as Waltz ultimately does, that states can (and should) avoid nuclear war. One has to believe that deterrence works (Craig 2003, 164–5).

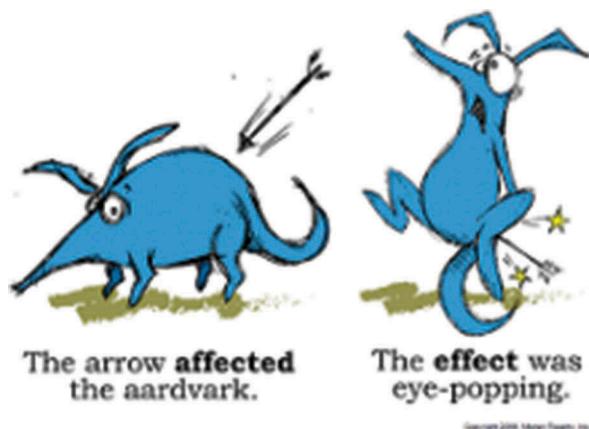
However, pinpointing this normative aspect of Waltz’s deterrence optimism also leads to a second line of inquiry that Craig does not explore. Waltz may not have been able to reconcile thermonuclear war with balance-of-power theory, but he was able to reconcile balance-of-power politics with the theory of nuclear deterrence whereas many of his contemporaries, most notably Hans Morgenthau, were not. In other words, perhaps the more puzzling question is not whether or not neorealism makes sense of thermonuclear war, but rather why and how Waltz is able to ‘make sense’ of deterrence. At what point is it that the normative shift that Craig identifies gets smuggled in? What allows Waltz to refocus the theoretical lens? And how might we refocus that lens to generate new political alternatives?

As Craig argues (2003, 148), Waltz's positivist theory does not meet the burden of demonstrating that the classical realist concerns about the failure of deterrence and the consequences of thermonuclear war are unfounded. Rather than resolving the paradox of the thermonuclear revolution for realism, Waltz smuggles in 'a normative desire for great power peace.' What the immanent critique I develop here adds to Craig's analysis is insight into the source and character of this normative shift. The method of immanent critique is a technique by which an analyst reveals the normative character of a theoretical construct by demonstrating how a theorist builds a normative valence into the foundations of her or his theory at the level of its epistemological and ontological assumptions. The assumptions function to elide logical contradictions that in practice are questions to be resolved through political contestation and struggle.

Immanent critique is, in essence, a diagnostic process. It takes a thought system on its own terms and by revealing contradictions from within and opens up new possibilities for transformation. Following Seyla Benhabib (1986), I take immanent critique – a method of 'noncriteriological inquiry which allows its practitioners to criticize the opponents' arguments by showing their internal inconsistencies and contradictoriness' – to be the first moment of the critical enterprise, and defetishizing critique – 'a procedure of showing that what appears as a given is in fact not a natural fact but a historically and socially formed reality' – to be the second (Harrington de Santana 2009; Biswas 2014).¹⁰ Immanent critique precedes defetishizing critique in the sense that demystifying social processes begins with revealing the limitations of existing thought systems. The theories (implicit and explicit) on which these thought systems are based are necessarily partial representations of the world. Interestingly, this is a point on which Waltzian neorealists and critical scholars agree. As Waltz (1979) formulates it, 'A theory is a picture, mentally formed, of a bounded realm or domain of activity. A theory is a depiction of the organization of a domain and the connections among its parts' (for more on Waltz's approach to theory, see Wæver 2009). Theories are never identical with the world, but rather are mental devices used to explain and reveal connections between features that may appear at first glance discreet and unrelated. Yet, even as theorists like Waltz (1979) are aware that 'A theory...always remains distinct from [the] world...“Reality” will be congruent neither with a theory nor with a model that may represent it,' as Daniel Levine and Alexander Barder have argued, the tendency to conflate theories with the realities they are designed to explain remains (Levine and Barder 2014). Conflating concepts, which are properly understood to represent things-in-themselves, with real-world 'things,' as if what were overlooked or otherwise obscured in theory in actual fact does not exist, results in the loss of emancipatory potential (Levine 2013). Immanent critique is the first step in a diagnostic process of recovering that potential.

3.1. *Power as affect versus effect*

The argument Waltz constructs about power has two primary components.¹¹ The first step is to argue that power should be defined, not in terms of the *effects* one is able to achieve, but rather in terms of whether or not a state's actions *affect* others more than others affect that state. The second step, which goes hand-in-hand with the first, is to collapse the means–ends distinction between power and its resources, a move that changes the ontological status of power, transforming it from an experience to something more akin to an object that one does or does not have.



In the above illustration (Fogarty 2016), power is the arrow that affects the aardvark, not the response it elicits. Affect is the impact one has on others. Effect is the response.

Waltz (1979, 1967) rejects Morgenthau's definition of power as 'man's control over the minds and actions of other men,' the ability to determine the *effect* of other's responses to your actions, on the grounds that '[i]dentifying power with control leads one to see weakness wherever one's will is thwarted.' Instead he (Waltz 1979) defines power as the 'notion that an agent is powerful to the extent that he affects others more than they *affect* him' (emphasis added).¹²

This new definition mimics Thomas Schelling's deterrence/compellence distinction. Schelling distinguishes between strategies to deter military aggression, and strategies to compel others to comply with your demands (what might in other contexts be referred to as blackmail, but Schelling prefers to call 'compellence').¹³ Deterrence is easier to achieve than compellence for three reasons. First, deterrent threats are more likely to be passive; they typically specify what someone may not do. The demand often takes the form of a limit that may not be crossed or an activity to be avoided. As long as that line is not crossed, action is not necessary. Compellence, in contrast, requires actively inflicting pain in order to incentive compliance. Second, compellence must be more specific in its demands. It requires more than a line in the sand. In order to compel someone to do something you have to make explicit what exactly that thing is and the terms under which it is to be accomplished. The demand must be carefully targeted. Third, compellence must include an assurance that compliance will bring the imposition of costs to an end. In other words, compellence requires additional forms of communication and interaction that deterrence does not require. Your adversary must be convinced that you will actually cease to inflict pain and suffering if he or she complies. Without that assurance, resistance remains preferable (Schelling 1966).

Deterrence is not about controlling what an adversary does, but rather about *affecting* the decision-making calculus. (For this reason, the *effectiveness* of deterrence is notoriously difficult to measure.) When most successful, deterrence has no discernable *effect*. It is hard to attribute causality to a nonevent (i.e. the dog that did not bark). In contrast, compellence is about shaping the decision-making calculus of an adversary in order to

produce a desired response. Therefore, it is both harder to implement a compelling strategy and easier to discern when it has failed.

The second step in Waltz's argument is to collapse the means–ends relationship between power and its elements. For Morgenthau, power is never only a means to an end. It cannot be reduced to its elements or equated with the resources on which states draw in order to pursue desired results. The core thesis of *Politics Among Nations* (Morgenthau 1952, 5) is that 'statesmen think and act in terms of interests defined as power,' an argument that Morgenthau (Morgenthau 1952, 28) reformulates subsequently as the iconic statement: 'International politics, like all politics, is a struggle for power.' The fact that the struggle for power is an eternal feature of politics is rooted for Morgenthau in human nature and is therefore timeless, as is his definition of power as 'man's control over the minds and actions of other men.' Contra Morgenthau, Waltz argues that power is not an end that states struggle to achieve. Rather it is the means through which states pursue survival. 'Power,' according to Waltz, 'is a means, and the outcome of its use is necessarily uncertain. To be politically pertinent, power has to be defined in terms of the distribution of capabilities; the extent of one's power cannot be inferred from the results one may or may not get' (Waltz 1967).

Collapsing power from an end into a means has at least two implications, one for the ends and one for the means. First, it allows Waltz to posit survival, rather than power, as the ultimate motivation for state behavior. This alternative framing of what motivates balance-of-power dynamics resonates with Schelling's arguments about strategic stability. The goal of nuclear deterrence is neither an effective defense, nor a plan for military victory, but rather the maintenance of 'strategic stability,' which at a minimum would guarantee survival. Exactly what is required to maintain a state of strategic stability is debated at great length by deterrence theorists. As an operational concept, strategic stability shares features in common with the notion of a balance of power. However, as Schelling explains in a RAND report from 1958, strategic stability means something more particular than a general notion of balance as symmetry:

It is not the 'balance' – the sheer equality or symmetry in the situation – that constitutes 'mutual deterrence'; it is the stability of the balance. The situation is symmetrical but not stable when either side, by striking first, can destroy the other's power to strike back; the situation is stable when either side can destroy the other whether it strikes first or second – that is, when neither in striking first can destroy the other's ability to strike back. (Schelling 1958; quoted in Colby and Gerson 2013)

Strategic stability is an equilibrium that can only be reached through the maintenance of an effective second-strike capability – the ability to absorb a first-strike and retaliate in kind. According to this logic, disputes would no longer be resolved through military contests, which would necessarily have to remain limited in nature, but rather would become games of bluffing and nerves as statesmen invoked the threat of a nuclear attack, knowing full well that they courted mutual assured destruction should they carry it out.

Second, it becomes possible for Waltz to measure power in terms of material capabilities because Waltz collapses the means–ends relationship between power and its resources by assuming perfect fungibility (Robert O. Keohane 1986, 167). Power is measurable in terms of the distribution of material capabilities: population and territory, resource endowment, economic capability, and military strength. As illustrated above,

power is like the arrow striking the aardvark. Concretizing power by operationalizing it in this way means that power functions in Waltz's theory much like wealth in microeconomic theory. Military capabilities, like nuclear weapons, carry the value 'power' just as money carries economic value. States function like firms competing for survival and power is the currency of the realm. Redefining power to bring it into alignment with Schelling's concept of deterrence allows Waltz to embrace nuclear deterrence theory along with its toolbox of economic models and methods.

3.2. *Power as money*

In addition to being located within a larger debate about the problem of whether or not balance-of-power thinking was still relevant in the nuclear age, there was at this time a debate raging in political science about the nature of power. The central question for political scientists was whether or not 'power is to us what money is the economist: the medium via which transactions are observed and measured' (David Singer 1963, 420) quoted in (Baldwin 1971). The analogy between power and money was taken up and developed by prominent figures in the field including Talcott Parsons and Karl Deutsch. Their goal was to make the study of politics more scientific, presumably by making its central medium amenable to measurement (Baldwin 1971). The analogy was highly contested, perhaps most prominently by David Baldwin (Baldwin 1971), but also by Morgenthau (Morgenthau 1967).

In the pages of the same journal issue where Waltz introduces this radical re-conceptualization of power, Morgenthau resists the encroachment of rational models and quantification into theories of international politics. Morgenthau pushes back on the desire to strip everything intangible about power away – what we would today think of as elements of soft power. Whereas '[w]ealth is a measurable quantity that an individual aspires to, competes or fights for, controls, possesses, or loses,' he (Morgenthau 1967, 209) argues, '[p]ower is a quality of interpersonal relations that can be experienced, evaluated, guessed at, but that is not susceptible to quantification.' The resources that contribute to a state's hard power are measurable, but for Morgenthau it is a mistake to treat power as if it were nothing more than the sum of its quantifiable elements (Morgenthau 1967, 210).

Waltz, in contrast, defends the analogy. 'Since states with large nuclear armories do not actually "use" them,' Waltz (Waltz 1967, 223–5) argues, 'force is said to be discounted. Such reasoning is fallacious. . . it is comparable to saying that a man with large assets is not rich if he spends little money or that a man is rich only if he spends a lot of it.' In contrast, he (Waltz 1967, 223–5) argues that the application of force actually decreases its value and is an indication that a state is declining in power, saying '... military force is most useful when it deters an attack, that is, when it need not be used in battle at all.'

Power for Waltz is not defined by what a state can or cannot achieve. It is about having such a preponderance of resources at your disposal that the choice of whether or not to use violence is yours alone. On the face of it, this claim that force is most powerful when held in reserve seemed to conflict with the contemporaneous experience in the United States. At the time of his writing, the United States was fighting a guerilla war in Vietnam. In spite of overwhelming superiority in military force, the United States was not utilizing the most destructive weapons in its arsenal, and was proving to be unable to meet its war objectives in any meaningful sense. Some interpreted this as a sign of U.S. weakness. However, Waltz confronts the question of American power in Vietnam head

on by reinterpreting U.S. actions in Vietnam as the luxury of restraint. The United States need not have intervened in Vietnam, he argues, because the outcome of the war would not fundamentally alter the balance of power between the United States and the Soviet Union. In other words, the only reason the United States was not winning the war in Vietnam was because it could afford to lose. It could afford to have limited objectives, short of full-scale invasion because Vietnam was not a great power. The implication is that, in his terms, power is now to be understood simply as a preponderance of possessions: just as I'm richer than you if I have more money than you (whether or not I spend it), I'm also more powerful than you if I affect you more than you affect me.

The question of whether or not power is for political science as money is for economics has since faded into the background of disciplinary debate. Scholars have moved on to richer and more varied interpretations (Lukes 1974; Allen 1999; Guzzini 1993; Haugaard and Clegg 2012). For the same reason that the question now seems passé, it is interesting that Waltz's use of the analogy, with all of the ontological issues it implies, continues to play such a central role in organizing the disciplinary conversation within American School IR. Arguably this is at least in part due to the fact that this reformulation of power allows Waltz to 'make sense' of the perceived passivity of deterrence, not as an impediment to power, but rather as the ultimate expression of it.

Unlike Morgenthau, who identifies the source of the problem that the thermonuclear revolution poses for balance-of-power politics in the massive destructiveness of nuclear technology, Waltz identifies the problem as lying in the assumptions about power that underpin Morgenthau's theory: (1) his definition of power as control and (2) the problem of means and ends (Waltz 1967). By redefining power as *affect*, rather than *effect* and collapsing the means–ends relationship between power and its resources, Waltz effectively assumes away the source of Morgenthau's fears and embraces a fully apolitical approach (Bessner and Guilhot 2015). Power is no longer something that a state achieves through diplomacy or war, but rather something that it simply either has or it does not. Collapsing the distinction between power and its resources leaves no space or need to exercise power per se. (In contrast, Morgenthau's list of power resources included hard-to-measure individual-level characteristics, such as charisma, which arguably would be useful to understand in a contest of bluffing and nerves.) Waltz treats questions of maintaining the credibility of an effective deterrent, as well as the possibility of deterrence failure as largely irrelevant, arguing that the high costs of nuclear war make states more cautious and war less likely. If deterrence failure should occur, he argues that the probability of escalation is equally low (Sagan and Waltz 2002).

Waltz's reconciliation of balance-of-power realism with deterrence theory prepares the ground for a major normative shift that transforms the violence of nuclear weapons from a threat to the survival of humanity into a source of security. The argument that a secure second-strike capability reduces the likelihood of war (because an effective deterrent is the best insurance against military attack) forms the foundation for the emergence of non-only practical, but also ethical arguments in defense of nuclear deterrence (see for instance, Nye [1986] For a window into the wider debate about ethics and weapons of mass destruction, see Hashmi and Lee [2004]).

In contrast to the nuclear abolitionists who saw in the spread of nuclear weapons the ultimate danger, Waltz famously defends the 'spread' of nuclear weapons, arguing, 'more may be better' (Sagan and Waltz 2002). His faith in the success of deterrence means that he holds one of the most extreme positions among the proliferation 'optimists.' As recently as 2012, he argued in the pages of *Foreign Affairs* that the Obama administration should be more sanguine about the possibility of an Iranian bomb because a

nuclear-armed Iran would be a stabilizing force for the region – a position that only a handful of other prominent realists shared (Waltz 2012) (Mearsheimer and Zakheim 2012).

In the guise of an apolitical theory, Waltz crosses the chasm between the nuclear abolitionists and the nuclear deterrence advocates by presuming what he sets out to demonstrate. In doing so, he transports a normative position by transforming the threat of nuclear war from a crime against humanity into the ultimate power and guarantor of survival.

4. Power and violence in the nuclear age

This final section draws out the implications of the immanent critique in the previous section for Rens van Munster and Casper Sylvest's project of recovering realist thought about nuclear disarmament. In it I turn to the work of Arendt to set out the conceptual framework for an alternative vision. I develop the connection between the H-bomb's obliteration of the distinction between means and ends and Arendt's claim that it is in the nature of violence to subsume that which justifies it, or in Arendt's (1969, 4) words: 'The very substance of violent action is ruled by the means–end category, whose chief characteristic, if applied to human affairs, has always been that the end is in danger of being overwhelmed by the means which it justifies and which are needed to reach it.'

4.1. Nuclear realism

In a recent article, van Munster and Sylvest (2014, 9) make a strong rhetorical and conceptual move by grouping together a disparate quartet of thinkers, Gunther Anders, John Herz, Luis Mumford, and Bertrand Russell, under the label 'nuclear realists.'¹⁴ Nuclear realists shared in common a rejection of the 'Pentagonal platitudes'¹⁵ of the nuclear strategists. They resisted the cultural and political estrangement that resulted from the instrumentalist views of technology expressed in deterrence theory, instead highlighting the connection between the horrors sewn by the deadly combination of science, technology, and rationality in the Holocaust and Hiroshima. They argued that the relentless expansion of new technological capabilities had fundamentally altered the human condition, arriving quickly at the conclusion that the nuclear condition would require political reorganization on a global scale. While the horrors of the Holocaust and the atomic bombing of Hiroshima were failures of the nation-state system, the possibility of world-ending thermonuclear war obviated the purpose of the balance of power system itself (van Munster and Sylvest 2014). By rendering great power war obsolete, nuclear weapons provide the basis for what realists had earlier considered folly: the creation of an international organization that would transcend state power (Craig 2003).

Van Munster and Sylvest (2014, 4) set out to recover this body of nuclear realist thinking about nuclear weapons in what they call 'the central decade of the thermonuclear revolution (ca 1952–1963)' because they 'take issue with the inadequate attention to history on display in current attempts to formulate "new" vocabularies with which to engage the military, political, scientific and moral implications of these [nuclear] weapons.' Their project is important because it widens the scope of understanding by demonstrating, for instance, how Morgenthau's turn toward a world state as a response to the thermonuclear revolution echoes the work of his contemporaries. Like the nuclear realists, Morgenthau saw nuclear war not as a problem of degree, but rather one of kind. Following Anders, he argued that nuclear weapons changed the meaning of death because nuclear war would end not only in physical destruction – a natural death – but a symbolic

death of the nation-state system as well – an absolute death (Morgenthau 1961, 233; Anders 1956).

Demonstrating commonalities among thinkers who are often seen as iconic and singular creates a powerful case for ‘nuclear realism’ and, on the one hand, van Munster and Sylvest’s appropriation of realism for this group of nuclear abolitionists is quite effective. On the other hand, by claiming disciplinary moniker ‘realism’ they occlude certain aspects of this quartet’s thought while highlighting others. What does organizing the recovery effort around a realist legacy lose?

There are two moments in the argumentative structure van Munster and Sylvest recover from the nuclear realists: first, a broader critique of technology and the legacy of the enlightenment, and second, the problem of political imagination in the nuclear age. The realist orientation of their synthesis focuses the first moment (the critique of technology and the enlightenment) on rationality and deterrence, and the second moment on the problem of political imagination as it relates to these men’s thoughts on world governance. Although van Munster and Sylvest’s (2014, 4) their definition of realism as, ‘tak [ing] into account reliable knowledge about the world, accept[ing] political necessity in some measure and display[ing] a sense of practical possibility in discussing change,’ does not preclude broader interpretations of this quartet’s work, it does in a de facto sense focus their synthesis more on explicating arguments about the loss of the traditional realist balance-of-power mechanism and the desire to re-establish a form of global political rule based on a monopoly of violence. In other words, one could say that realism, so understood, necessarily focuses van Munster and Sylvest’s recovery of this quartet’s work on the loss of control over violence as a tool of national power and a yearning to re-establish that control through political rule on a global scale.

The thinker whose work, arguably, is a challenging fit for van Munster and therefore remains the most underdeveloped in van Munster and Sylvest’s synthesis is Anders. As van Munster and Sylvest rightly note (2014, 11), Anders was less concerned with power-political struggles than Herz, Mumford, and Russell. Instead, the question for Anders was one of what was lost in terms of what it means to be fully human and how to recover it. As Anders emphasized, the problem is not only that the violence of nuclear weapons exceeds all rational political ends, a common enough observation, but also that it obliterates the ability to ask moral and ethical questions about whether or not the ends justify the means. The mere existence of nuclear weapons serves as its own justification.¹⁶ Van Munster and Sylvest do quote Anders on the relationship between ends and means in the nuclear age as saying: ‘because nuclear weapons overwhelm their targets, their almightiness is their defect (*“Ihre Allmacht ist ihr Defekt”*).’ They go on to explain that:

The H-bomb flouts the conventional understanding of a means by entailing the destruction of the end. Or simply: the bomb is too big. In Anders’ words, ‘the end discovered its own end in the effect of the means’, which signaled nothing less than the degeneration of the conceptual distinction between means and end. Nowhere was this more obvious than in the context of arms racing, where ‘the production of means has become the end of our existence [*Dasein*].’ (van Munster and Sylvest 2014, 8)

However, van Munster and Sylvest do not develop this particular strand of Anders’ thought. Arguably, this is one of the lines of reasoning that is, if not lost, at least underappreciated within a realist frame precisely because it forces us to look more carefully at the relationship, not only between means and ends in an abstract strategic sense, but also between violence as a means and power as an end. Nuclear weapons, as an

instrument of violence, have overwhelmed the end for which states produce them (national interest defined in terms of power). As Anders foresees, and Waltz realizes in theory, the existence of nuclear weapons will become its own political and ethical justification for their production.

The relationship between means and ends in nuclear strategy is a significant theme and point of contention in nuclear discourse. As I argued in the previous section, collapsing the conceptual distinction between power as an end and material capabilities as a means is precisely what allows Waltz to reconcile balance-of-power realism with deterrence theory. His reconceptualization of power may have helped IR scholars make sense of deterrence, at least on the surface, but IR scholars have long considered his treatment of power to be impoverished (Richard Ashley 1987). In Morgenthau's assessment, the attempts of nuclear strategists to reconcile the contradiction between the 'objective conditions' of the nuclear age with 'outmoded thinking' only widens the gap between reality and the policies designed to cope with that reality. Instead of resolving the contradiction between means and ends in the nuclear age, he argues that nuclear strategy produces paradox, which the theoretical distinction between first and second-strikes does nothing to resolve (Morgenthau 1964).

Arguably, Anders' claim that the obliteration of the means–ends distinction is an 'objective condition' of the nuclear age, means that, even if Waltz's theory is flawed on a conceptual level, it does capture something important about how our response to nuclear weapons collapses power into the instruments of violence. In other words, Waltz's theory does capture something essential about power politics in the nuclear age. There is something about the analogy between power and money that resonates with the way diplomats experience the power of nuclear weapons in the context of negotiations. Nuclear weapons do function on some level as if they were a type of power currency in the context of arms control and nonproliferation negotiations (Harrington de Santana 2009).¹⁷ However, Waltz's apolitical allows for a focus on this aspect of nuclear politics, and while the nuclear realist vision of world governance does not preclude such an interpretation, nor does it provide us with the conceptual resources to make sense of the special power of nuclear weapons.

4.2. *Violence versus power*

Drawing on the work of Arendt, I argue that recognizing the realist failure to properly theorize power opens up a third response to the thermonuclear revolution. Where nuclear realists yearn for a world state equal to the global threat of nuclear annihilation, and Waltz completes the logic of the nuclear revolution by reconciling balance-of-power theory with deterrence theory, Arendt works to recover space for political action. In an argument that resonates strongly with Anders' focus on the centrality of the relationship between means and ends, rather than collapsing the distinction between violence and power, Arendt argues that recovering space for politics begins with properly distinguishing violence and power, not simply as classical realism does (as a distinction between power and its resources) but as oppositional concepts.

Arendt is a poor fit for what van Munster and Sylvest take to be the core points of convergence of nuclear realism. In an edited volume on the topic of realism, Patricia Owens opens her chapter on Arendt by saying, 'To the extent that realist traditions of political thought are concerned with politics as a form of rulership whose essence is violence and domination, it is difficult to imagine a thinker as un-realist as Hannah Arendt' (Patricia Owens 2008, 105). Owens goes on to parse

Arendt's relationship to realism, something that is outside the scope of my analysis here. However, as should be clear from above, Owens argues that what differentiate Arendt from the realist tradition is a rejection of a means–ends instrumentalism of politics and a fundamentally different understanding of the relationship between violence and power.

In *On Violence*, Arendt takes explicit issue with what could be broadly termed a 'realist' view of balance-of-power politics. She argues that the confusion of violence for power leads to an oddly apolitical and skewed definition of what a state is. It produces a vision of the state as an instrument of oppression whose primary claim to authority is its legitimate monopoly on the use of violence (a monopoly that the ruling classes uses to maintain their privilege against foreign and domestic incursion). If, as is the case within this framework, power is defined as control over the will of another, its essence being command over the mind and body of another, then the nation-state has no power and therefore no reason for being if it loses its ability to carry out acts of violence in the name of the nation (Arendt 1969, 35–39).¹⁸

Reaching back to antiquity and tracing it forward, Arendt recovers an alternative strand of political thought. It is a political tradition that questions the drive toward dominance as the most natural human desire, instead positing the desire for interaction among equals joined together in a common cause as the most significant of human motives. This is the republican tradition that sees in collective submission to a common set of laws a more powerful form of government than any form of rule that rests on the threat of violence. Violence, or the threat thereof of (and the control that it confers) is the resort of the weak. It is what tyrants rely upon when there is no sense of common purpose or mission to bring people together. In fact, Arendt argues that it was precisely the desire to free man from the burdens of household affairs and bring him into public life among equals that was used to justify the slave economy; if all men wanted was to be tyrants, there would have been little reason to leave the home (Arendt 1969, 40).

In *On Violence*, Arendt (1969, 10) refutes the consensus view of the positive relationship between violence and power, the 'complete reversal in the relationship between power and violence,' that had become a feature of the Cold War world. What Arendt means by 'reversal' here is underspecified, but in the context of the book as a whole, it can be interpreted as meaning, not that power and violence have reversed positions and swapped roles with one another, but rather that these two concepts which were previously understood to be not only distinct but actually in tension with one another, now appear to be one and the same. She (Arendt 1969, 42) argues they are in fact opposites, saying: 'The extreme form of power is All against One, the extreme form of violence is One against All.' Their reversal is not a situation that bodes well for the future, both because it foreshadows a similar reversal in 'the relationship between small and great powers' and because it 'bears an ominous similarity to one of political science's oldest insights, namely that power cannot be measured in terms of wealth, that an abundance of wealth may erode power, [and] that riches are particularly dangerous to the power and well-being of republics' (Arendt 1969, 10).

Arendt argues that political science should distinguish between power, strength, force, authority, and violence, terms that are used all too interchangeably, but nonetheless are naming distinct actions and experiences. They are all used synonymously because they are all understood to describe the rule of man over man. However, this view of the world is one in which politics is treated as synonymous with domination. If instead, politics is taken to be about the coordination of activities among equals using these terms to name

distinct phenomena becomes relevant. Power, she argues, is an inherently social phenomenon. It 'corresponds to the human ability not just to act but to act in concert.' Power always belongs to the group, never to an individual. Saying that someone is 'in power' refers not to the power of the individual, but rather to that individual's position vis-à-vis the group. Strength is a property of an individual or an object. It is a quality inherent to that individual regardless of that individual's relation to larger social structures or processes. Force, which is frequently used as synonymous with violence, Arendt wants to reserve for the energy released by nature or social movements. Authority is the term most abused and also most difficult to define. To hold authority is to regulate one's behavior in accordance with the limitations and responsibilities of a social role, as a mother might behave toward a child, or a military commander to her squadron, and be recognized by those around you on that basis. Finally, the essence of violence is its instrumental character. Closely related to strength in that the capacity for violence is an attribute of an object, instruments of violence are frequently also designed to multiply strength (Arendt 1969, 44–46).

Distinguishing between violence and power in this way creates a vocabulary with which Arendt is able to describe the politics of war and revolution. Contra Waltz, Arendt describes how American superiority in the means of violence in Vietnam could not overcome the power of a well-organized opponent. She talks about the moment in revolutionary conflicts when the power behind repressive violence disappears and soldiers lay down their arms. However, that does not mean that power and violence cannot or do not co-exist. In fact, Arendt claims it is rare to ever confront one in the absence of the other. In practice power, strength, force, authority, and violence are always operating simultaneously, which is one of the reasons it is so easy to allow them to bleed into one another in theory.

Collapsing the distinction between power and violence, and treating power as if it could be a product of violence leads to a type of deterministic political analysis that eliminates questions of creating and sustaining power as political action. Arendt argues that this new mode of analysis is detrimental to political discourse due to the 'steadily increasing prestige of scientifically minded brain trusters in the councils of government' (Arendt 1969, 6). Arendt refers explicitly to Thomas Schelling, including recent reviews of his book *Arms and Influence*, and implicitly to Herman Kahn, making reference to his infamous ability to 'think the unthinkable.' Arendt (1969, 6) argues that 'the trouble is not that they are cold-blooded enough to "think the unthinkable," but that they do not *think*' (emphasis in the original). She considers the construction of models based on assumptions and hypothetical data, the speculative nature of which is all too quickly forgotten as initial hypotheses are transmuted into facts, to be nothing more than pseudo-science. Quoting Noam Chomsky, Arendt locates its primary danger in the fact that this kind of analysis 'imitates the surface features of sciences that really have significant intellectual content,' and she agrees with Richard N. Goodwin that this 'can lead us to believe that we have an understanding of events and control over their flow which we do not have.' Deterrence theory simply project the past into the future, treating what Arendt considers to be the most significant feature of human life, namely the occurrence of events that depart radically from the past, as nothing more than anomalous events. It protects their inner consistency at the expense politics: 'The danger is that these theories are not only plausible because they take their evidence from actually discernable present trends, but that, because of their inner consistency, they have a hypnotic effect; they put to sleep our common sense, which is nothing else

but our mental organ for perceiving, understanding, and dealing with reality and factuality' (Arendt 1969, 8).

The space for political discourse – for equals to come together and debate what are both moral and pragmatic political decisions – was all too rapidly yielded to the unthinking expertise of 'brain-trusters' and the hypnotics effect of theories of deterrence. Politics was replaced with the expert opinion that the future should and would resemble the past and there was no way to debate essential questions about value and purpose, the ends towards which communities direct their actions and in the realization of which they experience their power.

What is absolutely essential to grasp in order to make sense of the impact of nuclear weapons is that if violence is treated as if it were power, the production of instruments of violence, rather than a means to an end, becomes a political and ethical end in itself. Whether or not a human action will produce the desired political end is always uncertain and cannot be reliably predicted. Therefore, the means used to pursue an end are often more important than the intended end because the means are certain while the ends are not. To summarize:

- (1) Violence action is always ruled by the means–end category.
- (2) The technical development of the implements of violence has overwhelmed any rational political goals, collapsing the distinction between ends and the means they justify.
- (3) The collapse of the means–end relationship between the implements of violence and political goals has led to the valorization of violence and closed the space for politics within public discourse about international affairs.
- (4) Opening space for politics begins with re-establishing the proper distinction between power and violence (Arendt 1969): 'power and violence are opposites; where one rules absolutely, the other is absent.'

5. Conclusion

Nuclear strategy is plagued by paradox (Morgenthau 1964). On the one hand, nuclear weapons complete the logic of pursuing national security through violence. On the other hand, they leave all nation states more vulnerable than ever before. Historically there have been two responses to this paradox. The first response, which, following van Munster and Sylvest (2014) I identify as the nuclear realist response, is to point to nuclear weapons as the source of that contradiction, not in a flat-footed technologically deterministic sense, but in the sense that technology is transformative. Nuclear weapons bring the paradox into existence. This first interpretation leads to the conclusion that nuclear disarmament is essential to ensure the survival of humanity and world governance is both necessary and desirable to contain the threat that nuclear weapons pose to humanity.

The second response is the Waltzian neorealist response. Waltz identifies the problem as a failure of balance-of-power theory to properly understand and theorize power. In this second view, a world state is neither necessary nor realistic. However, nuclear deterrence provides a desirable alternative because it completes the logic of security through military force. If nuclear realists are unable to reconcile nuclear strategy with balance-of-power realism, then there is a need to bring realism into line with deterrence theory by collapsing the means–end distinction between violence and power, thereby assuming away the fundamental paradox of nuclear strategy.

In challenging the most basic assumption on which balance-of-power theories rest, namely that violence is the most potent manifestation of power, Arendt's distinction between violence and power allows us to reinterpret the paradox brought into stark relief by the destructiveness of nuclear weapons as a symptom of a deeper contradiction. In so far as power is considered a desirable goal within this framework, violence as its manifestation takes on a normative valence – in Arendt's words, it is valorized. In other words, it is not nuclear weapons that create a problem for balance of power theory, but rather that balance of power theory always already contained a fundamental contradiction.

The immediate implication of this argument for those involved in disarmament politics is that they should be careful to avoid playing into the logic of this association between violence and power. Arguments that emphasize the future danger of nuclear wars can have the perverse effect of increasing the power of nuclear weapons because if nuclear weapons are perceived as being powerful because of their capacity for violence, emphasizing the effects of that violence amplifies that perception.

Arguments about the current financial, environmental, and social costs of maintaining an arsenal step outside the apocalyptic logic of mutual assured destruction and may be more effective at supporting efforts at stigmatizing nuclear weapons. Arguments for nuclear abolition based on the real-time costs of maintaining a nuclear arsenal lead to very different kinds of policy outcomes than arguments based on the fear of an apocalyptic future. Real-time cost-based arguments focus attention on what nuclear weapon states are doing to destroy their own landscapes and peoples (and sometimes the people of neighboring countries or close allies). In other words, cost arguments ask nuclear weapon states to look at the threat they pose to themselves by choosing to develop nuclear weapons. These arguments highlight the aspects of nuclear weapons that are dirty, poisonous, and difficult to contain.

In contrast, arguments for nuclear abolition based on the fear of an apocalyptic nuclear attack focus attention on what nuclear weapons can do in the context of an imagined future. These same arguments about nuclear apocalypse provide advocates of nuclear deterrence with their justification for why maintaining a nuclear arsenal is essential to U.S. national security. In the hands of an irrational adversary, nuclear weapons are dangerous, but turned to rational purposes by responsible states, nuclear weapons are the ultimate source of stability and power. As Waltz teaches us, the apocalyptic potential contained in the thousands of nuclear warheads dispersed around the globe is either truly terrifying or entirely reassuring, depending on your perspective.

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Notes

1. As I have noted elsewhere, nuclear deterrence theory translates into multiple policy recommendations. Charles Glaser argues that there are three schools of thought: punitive retaliation, military denial, and damage limitation. In contrast, I argue that there are two: punitive retaliation and warfighting. Theorists such as Robert Jervis who argue for the maintenance of a minimum deterrent best exemplify punitive retaliation. Military denial and damage limitation are both what I would refer to as warfighting positions. In other words, I elide Charles Glaser's distinction between the kind of military denial policy of someone like Keith Payne and Colin Gray and the damage limitation policy of someone like Harold Brown. The relevant distinction for the purposes of my argument lies in whether or not they consider the military balance of nuclear forces to be meaningful in the same sense as a conventional balance of forces, not in whether or not superiority or parity is required. Extended deterrence requires a warfighting strategy because it is believed to be more difficult to maintain the credibility of a threat of nuclear retaliation in the event of aggression against a third party than it is in the event of aggression against one's own homeland. For more on the shape of the Cold War debate on nuclear deterrence, see Glaser (1990).
2. This chasm is reflected in the Obama administration's contradictory nuclear policy positions. In the 2009 Prague address where President Obama (Obama 2009) 'state[d] clearly and with conviction America's commitment to seek the peace and security of a world without nuclear weapons,' he also reassured the audience that '[a]s long as these weapons exist, the United States will maintain a safe, secure and effective arsenal to deter any adversary, and guarantee that defense to our allies.' While the Obama administration successfully ratified the New Start Treaty, in which the United States and Russia agreed to reduce their deployed nuclear warheads to 1550 each by 2018, it also reinvested in modernizing the U.S. nuclear arsenal, a plan that the Congressional Budget Office estimates will cost \$348 billion over the next decade ('Projected Costs of U.S. Nuclear Forces, 2015 to 2024' 2015).
3. Most notably, the Carnegie Endowment, the Stimson Center, Stanford University's Center for International Security and Cooperation, the James Martin Center for Nonproliferation Studies at Middlebury's Institute for International Studies at Monterey, the Einaudi Center at Cornell University, and more recently, the Hoover Institution.
4. *The Absolute Weapon*, which came out of a conference held at the University of Chicago, is the text in which Brodie provided the foundational conceptual move necessary for deterrence theory to come into being – the idea that nuclear weapon had changed the purpose for which military means were to be produced.
5. Van Muster and Sylvest refer specifically to Global Zero and the Obama administration's commitment to 'seek a world without nuclear weapons,' to which I would add the so-called 'Gang of Four's' Nuclear Security Project and the Humanitarian Initiative (a group of 159 states who have organized around a perceived lack of progress on the NPT disarmament agenda to hold the nuclear weapons states accountable).
6. As Ole Wæver argues, Waltz's theory is based in scientific realism, the same epistemological position that Wendt defends in his version of constructivism (Wæver 2009).
7. To Weaver and Buzan's observation I would add that the same is equally true of the intelligentsia 'inside the beltway' and the more academically informed policy rags, like *Foreign Affairs* and *Foreign Policy*. American School IR theorists likewise dominate these policy-relevant fora, the headlines from which are forwarded around the Pentagon, the White House, and on Capitol Hill as part of the media cycle. Although American School realists may bemoan the fact that policy-makers do not adequately heed their advice, their influence on the boundaries of the expert debate about nuclear deterrence is significant (Stephen Walt 2016). As a result, unpacking the synergistic relationship between neorealism and deterrence theory

carries important implications for unraveling the specificities and apparent contradictions of the American debate about nuclear disarmament.

8. See endnote 3.
9. I am thinking here primarily of critical and historical methods that challenge the underlying epistemological assumptions of the scientific paradigm as it applies to the social sciences. However, as I mention, it is also true that the freedom to ask policy-relevant questions frees researchers from the paradigm wars as well. This means that it becomes easier for IR to test hypotheses against statistical data to answer research questions that are largely considered irrelevant within the broader IR debate. Dominant realist voices, including John Mearsheimer, have long been active in the effort to police the boundaries of American IR against the encroachment of quantitative methods, as part of a movement known as 'Perestroika' in the 1990s, and continue to do so. For more on the Perestroika movement in American Political Science, see Stewart (2003) For an analysis of the disciplinary dynamics in American School IR, see Levine and Barder (2014).
10. Therefore, this argument could be interpreted as a prequel to the defetishizing critique of U.S. nuclear strategy and policy I developed elsewhere in work on nuclear weapons and the fetishism of force.
11. Although Waltz wouldn't publish the paradigm-shifting book in which he reconciles realist balance-of-power theory with deterrence theory, *A Theory of International Politics*, until 1979, he had begun working out the ideas that would appear there during this same formative period. The key passages on power first appear in an article Waltz published in 1967.
12. Waltz explicitly mentions Schelling's book and this distinction: 'Dissuasion or deterrence is easier to accomplish than "compellence," to use an apt term invented by Thomas C. Schelling. Compellence is more difficult to achieve than deterrence, and its contrivance is a more intricate affair.'
13. Hedley Bull makes this observation in a review of *Arms and Influence* published in *The Bulletin of Atomic Scientists*, March 1967.
14. van Munster and Sylvest (2014, 4) describe what they mean by realism in this context as 'tak[ing] into account reliable knowledge about the world, accept[ing] political necessity in some measure and display[ing] a sense of practical possibility in discussing change.'
15. van Munster and Sylvest attribute the phrase 'Pentagonal platitudes' to Luis Mumford.
16. For more on this, see Jean-Pierre Dupuy's contribution to Bischof, Dawsey, and Fetz (2014, 39).
17. Waltz's apolitical approach obscures many fruitful questions about politics and practice of the arms control and nonproliferation negotiations in which diplomats 'trade' on nuclear technology by focusing attention on some aspects of the materiality of nuclear weapons, while at the same time obscuring others. For instance, as I have argued elsewhere, one of the aspects of nuclear materiality that neorealism obscures is that the fissile materials essential to the explosive yield of nuclear weapons share many of the same material qualities that currency does. Fissile materials are scarce, durable, and divisible, the same qualities that all economic currencies share in common (Harrington de Santana 2009).
18. For more on the differences in terms of where Arendt and Morgenthau end up on political questions of a world state versus the potential for a federated system, see Klusmeyer (2008). For an authoritative treatment of Arendt's 'understanding of war and its political significance,' see Owens (2007).

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