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# Institutional Resilience, Deterrence and the Transition to Zero Nuclear Weapons

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## Abstract

The goal of a world free from nuclear weapons is directly related to the issues of international institutions and deterrence. Assuming that it would be possible, first, to move to significantly lower numbers of nuclear weapons and then to zero nuclear weapons, governing institutions would have to be resilient enough to respond in a timely manner and to uphold the bargain. But what factors determine and influence institutional resilience? And what would be the likely role of deterrence? This article first assesses what the general IR narratives tell us about determining factors. It then examines two empirical cases from the realm of arms control institutions (the CFE and the NPT treaties) and asks why these agreements are not as effective as intended. The next section discusses three additional factors of influence and identifies a shared interest in overcoming the deterrence principle as a key variable for institutional cooperation and as a factor that continues to influence resilience and effectiveness. The last section presents the conclusions.

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## Keywords

arms control – disarmament – deterrence – cooperation – institutions – resilience

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*The fateful question for the human species seems to me to be whether and to what extent their cultural development will succeed in mastering the disturbance of their communal life by the human instinct of aggression and self-destruction. It may be that in this respect precisely the present time deserves a special interest. Men have gained control over the forces of nature to such an extent that with their help they would have no difficulty in exterminating one another to the last man. They know this, and hence comes a large part of their current unrest, their unhappiness and their mood of anxiety.*

SIGMUND FREUD, *Civilization and Its Discontents*, London: Penguin, 2002.

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## Introduction

Almost ten years after four U.S. elder statesmen called for a world free from nuclear weapons,<sup>1</sup> the goal of *global zero*—that is, the complete and irreversible abolition of all nuclear weapons worldwide—seems to have dissipated. With the revival of Cold War style relations between NATO and Russia over Ukraine and Syria and the subsequent renaissance of “nuclear signalling” and intimidation, there is currently more talk about how to modernize and upgrade the nuclear arsenals of the five officially recognized nuclear-weapons states<sup>2</sup> than there is about nuclear disarmament. Even the much more modest goals of regulating the bilateral nuclear relationship of the United States and

1 See George P Shultz, William J. Perry, Henry A. Kissinger and Sam Nunn, “A World Free of Nuclear Weapons”, *Wall Street Journal on-line* (4 January 2007), accessed 24 November 2015. <http://www.wsj.com/articles/SB116787515251566636>.

2 The officially recognized nuclear-weapons states under the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) are the so called “P5” states: China, France, Russia, the United Kingdom and the United States.

Russia through arms control and of upholding multilateral efforts to prevent horizontal nuclear proliferation have reached an impasse.<sup>3</sup> Some analysts already speak of the “end of history for nuclear arms control”.<sup>4</sup>

While it is too early to scrap nuclear arms control and disarmament goals altogether, the pending period of likely stonewalling and nuclear inertia presents an opportunity for academics and advocates of a world with zero nuclear weapons (‘abolitionists’) to engage in intellectual efforts to analyse the policy failures of the past and to scrutinize the likely future obstacles to zero nuclear weapons. The latter pertains particularly to explaining and planning the transitional period of reaching lower numbers of nuclear weapons.

So far, the related academic literature has mostly concentrated on issue-specific problems such as how to cope with stable deterrence relationships at lower numbers<sup>5</sup> or how to engage differently situated international actors in the process.<sup>6</sup> What remains an underexplored issue is the long-term role of institutions in that process.<sup>7</sup> Whoever would govern a future world of significantly fewer or even zero nuclear weapons—be it a concert of great powers, world government, security communities, *ad hoc* coalitions or a benevolent/malevolent hegemonic power—would most likely have to rely on at least some form of loosely institutionalized “rules of the road” to verify compliance, to consult in cases of non-compliant behaviour or to address crises occurring from outside the institutional framework. While the general value of institutions

3 Cf. Oliver Meier, “The 2015 NPT Review Conference Failure: Implications for the Nuclear Order”, Berlin: SWP October, 2015, accessed 18 November 2015. [http://www.swp-berlin.org/fileadmin/contents/products/arbeitspapiere/mro\\_wp\\_NVV\\_October2015.pdf](http://www.swp-berlin.org/fileadmin/contents/products/arbeitspapiere/mro_wp_NVV_October2015.pdf).

4 Alexei Arbatov, “An Unnoticed Crisis: The End of History for Nuclear Arms Control?” Moscow: Carnegie Endowment June, 2015, accessed 25 November 2015. [http://carnegieendowment.org/files/CP\\_Arbatov2015\\_n\\_web\\_Eng.pdf](http://carnegieendowment.org/files/CP_Arbatov2015_n_web_Eng.pdf).

5 Cf. James M. Acton, *Deterrence during Disarmament: Deep Nuclear Reductions and International Security*. Adelphi 417. Abingdon, Oxon: Routledge, for the International Institute for Strategic Studies, 2011.

6 Cf. Catherine M. Kelleher and Judith Reppy (eds.), *Getting to Zero: The Path to Nuclear Disarmament*. Stanford, Calif.: Stanford University Press, 2011.

7 As Thomas Risse correctly noted, “there are at least as many definitions of (international) institutions as there are theoretical perspectives”. Thomas Risse, “Constructivism and International Institutions: Toward Conversations across Paradigms”, in *Political Science: The State of the Discipline*, Ira Katznelson and Helen V. Milner (eds.), New York: Norton, 2002, pp. 597–629. *Institutions* as defined in this article can comprise, (1) bilateral or multilateral, legally or politically binding treaties and agreements; (2) regimes and regime complexes; and (3) international organizations. For an overview of the debate, see John S. Duffield, “What Are International Institutions?” in *International Studies Review* 9, 2007, no. 1, pp. 1–22.

in this scenario (to ensure and enforce compliance, to prevent nuclear reversal, and to provide communication channels) is mostly undisputed in the literature,<sup>8</sup> the specifics of institutional maintenance—such as institutions' continued ability to be resilient to external shocks or internal shifts—have largely remained outside the focus, and little is known about the factors that determine and influence institutional resilience in the realm of arms control.

If the issue of a stable transition to zero nuclear weapons is to be treated more seriously, this gap in research needs to be closed.<sup>9</sup> In contrast to the arms control literature, “institutional resilience” as a more general *topos* has attracted a good deal of attention in international relations (IR) theory, and various case studies have been used to explore the matter.<sup>10</sup> As this article argues, theoretical assumptions from IR theory in combination with historical accounts of the effectiveness of two important arms control and disarmament treaties—the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) and the Treaty on Conventional Armed Forces in Europe (CFE)—can help to shed new light on the issue of institutional resilience. These perspectives may help to generate new thinking on how to better conceptualize the stable transition to zero nuclear weapons.

### What IR Theory Tells Us

IR theory offers various narratives on the factors that determine the evolutionary life-cycle of institutions and thereby influence institutional resilience. In a

8 Cf. for example: David Cortright and Raimo Väyrynen, *Towards Nuclear Zero*. Adelphi 410. London: International Institute for Strategic Studies, 2010, pp. 123 *et seq.* Corey Hinderstein (ed.), *Cultivating Confidence: Verification, Monitoring, and Enforcement for a World Free of Nuclear Weapons*. Hoover Institution Press publication no. 596. Chicago: Hoover Institution Press, 2010. Ernesto Zedillo, “The Role of International Institutions in the Disarmament Process”, In *Abolishing Nuclear Weapons: A Debate*, George Perkovitch and James M. Acton (eds.), Washington: Carnegie Endowment, 2009, pp. 287–94.

9 Thomas Schelling has pointed to this fact and a number of related questions: Thomas C. Schelling, “A world without nuclear weapons?” in *Daedalus* 138, 2009, no. 4, pp. 124–129.

10 See for example: Chris C. Demchak, Arjen Boin and Louise K. Comfort. *Designing Resilience: Preparing for Extreme Events*. Pittsburgh, Pa.: University of Pittsburgh Press, 2010. Paul D. Aligica, “Institutional Resilience and Institutional Theory”, in *Institutional Diversity and Political Economy*, Paul D. Aligica (ed.), Oxford: Oxford University Press, 2013, pp. 101–33. Zoltan Barany and Robert Rauchhaus, “Explaining NATO’s Resilience: Is International Relations Theory Useful?” in *Contemporary Security Policy* 32, 2011, no. 2, pp. 286–307.

very generalized way, they read as follows. Neo-realists argue that institutions depend on shifts in the acquisition of power in the international system and that the waxing and waning of power determines the fate of institutions.<sup>11</sup> The most powerful states use institutions primarily to achieve their preferred interests.<sup>12</sup> Constructivists infer that institutions, once they are set up, can acquire lives of their own and are much more resilient to perturbations from the power realm than is usually assumed by neo-realist proponents.<sup>13</sup> Neoliberals see cost considerations as determining factors and suppose that the “costliness” of establishing institutions in the first place may prevent states from tearing down what had once been built up.<sup>14</sup> This argument rests in part on the assumption that states are uncertain about what the additional costs would be to re-establish or replace a certain institution. In short, the neoliberal narrative asserts that states are wary and cost-sensitive because they seem to know, or to assume, that it is harder to establish cooperation than to get rid of it.<sup>15</sup>

How do these arguments relate to the realm of arms control? Let me first turn to the neo-realist narrative of power and interest. In accordance with this, underlying institutional resilience and the establishment of institutions are two determining factors: a certain distribution of power amongst states—which, according to neo-realist Kenneth N. Waltz, is structurally<sup>16</sup> there, though we know little about its propensity to propel or inhibit cooperation—and a certain convergence of interest.<sup>17</sup>

In terms of the cooperation propensity of the relative distribution of power (i.e., the power states have relative to each other), the historical record of international arms control policies tells us that the period of an almost perfect equilibrium of power (the Cold War) was more fruitful for establishing and maintaining institutions than are periods during which the relative distribution of power is uneven and/or in flux (the post-Cold War period and the

11 John J. Mearsheimer, “The False Promise of International Institutions” in *International Security* 19, 1994/95, no. 3, pp. 5–49.

12 Daniel W. Drezner, *All Politics is Global: Explaining International Regulatory Regimes*, Princeton, N.J., Woodstock: Princeton University Press, 2008.

13 Emanuel Adler and Peter M. Haas, “Conclusion: Epistemic Communities, World Order, and the Creation of a Reflective Research Program”, in *International Organization* 46, 1992, no. 1, pp. 367–390.

14 Robert O. Keohane, “International Institutions: Two Approaches”, in *International Studies Quarterly* 32, 1988, no. 4, pp. 379–396.

15 Cf. Robert O. Keohane, *After Hegemony: Cooperation and Discord in the World Political Economy*. Princeton, NJ: Princeton Univ. Press, 1984, pp. 103 *et seq.*

16 Kenneth N. Waltz, *Theory of international politics*. 1st ed. Boston: McGraw-Hill, 1979.

17 Ibid.

current “New Cold War”<sup>18</sup>. To illustrate this point, the Cold War years produced eight milestone agreements<sup>19</sup> between 1963 and 1991, of which three are still in operation, three have been replaced, one never entered into force, and one has been abandoned. The total of eight agreements divided by twenty-eight years makes an average of  $\sim 0.3$  agreements per year. The shorter post-Cold War period (1992–2015) has seen five agreements,<sup>20</sup> of which two are operational, two never entered into force, and one has been replaced. This makes an average of  $\sim 0.2$  agreements per year. Though the difference of merely  $+0.1$  is not extremely striking in terms of the propensity for agreement-making, four of the five post-Cold War agreements are direct extensions (or adaptations) of original Cold War agreements. This circumstance seems to point to additional factors that are outside the realm of power and that might have more to do with the neo-realist variable of interest.

In terms of convergence of interest, the superpower relations of the Cold War produced a wealth of arguments for a shared interest in cooperation under the title of “strategic stability”<sup>21</sup> and mutual survival. Interestingly, the maintenance of the concept of strategic stability continues to inform the debate amongst experts and policy-makers in both Russia and the United States to this very day.<sup>22</sup> This fact points to an inherent (and mutually shared) interest in the concept—one that did not vanish with the Cold War and that has survived the shifts in power that followed its demise. I will return to this shared interest after the next section.

Turning to constructivist and neoliberal arguments, the factual resilience of certain arms control institutions seems to be in line with their common

18 Robert Legvold was amongst the first to label the renewed confrontation between the West and Russia, following the annexation of Crimea in March of 2014, a “new Cold War”. Robert Legvold, “Managing the New Cold War”, in *Foreign Affairs* 93, 2014, no. 4, pp. 74–84.

19 These are the Partial Test Ban Treaty (1963), the Treaty on the Non-Proliferation of Nuclear Weapons (1968), the Strategic Arms Limitation Talks I and II (1972, 1979), the Anti-Ballistic-Missile Treaty (1972), the Intermediate-range Nuclear Forces Treaty (1987), the Conventional Armed Forces in Europe Treaty (1990) and the Strategic Arms Reductions Treaty (1991).

20 These are the Comprehensive Nuclear-Test-Ban Treaty (1996), the Strategic Arms Reductions Treaty II (1993), the Adapted Conventional Armed Forces in Europe Treaty (1999), the Strategic Offensive Reductions Treaty (2002) and the New START Treaty (2010).

21 The term *strategic stability* refers to a concept in which both sides (United States and the Soviet Union/Russia) have a survivable and, in terms of numbers, almost equal nuclear second-strike capability to retaliate against a possible first strike by the other side.

22 Cf. Deep Cuts Commission, “Strengthening Stability in Turbulent Times”, Hamburg, Moscow, Washington: IFSH, April 2015, accessed November 18, 2015. <http://deepcuts.org/publications/reports>.

assumption of the autonomy of institutions and the cost considerations of states. As already stated, three of the eight Cold War agreements are still with us today and another three have morphed into agreements that continue to operate. Two concrete examples of the long-term operation of institutions are the NPT and CFE treaties. Let me focus briefly on the role of these two agreements.

The NPT opened for signature in 1968 and was extended indefinitely in 1995. It was a direct answer to the mutual concern of both superpowers that nuclear weapons could proliferate horizontally until twenty to forty states might possess nuclear weapons. The treaty distinguishes between the five officially recognized nuclear-weapons states (NWS), which also happen to be the permanent members of the United Nations Security Council, and the overwhelming majority of non-nuclear-weapons states (NNWS). The treaty's aims are to prevent the further spread of nuclear weapons, to assist non-nuclear-weapon states in the peaceful uses of nuclear energy, and to help achieve complete disarmament.<sup>23</sup> More precisely, the NPT forbids the NNWS to transfer, manufacture or otherwise acquire nuclear weapons. At the same time, Article VI of the treaty foresees that, "each of the Parties to the Treaty undertakes to pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament, and on a treaty on general and complete disarmament under strict and effective international control."<sup>24</sup> As a matter of fact, the NPT has helped to prevent the unchecked horizontal proliferation of nuclear weapons (only four states remain outside of the treaty and have acquired nuclear weapons).<sup>25</sup> At the same time, the treaty's stated goal of "general and complete disarmament" remains unfulfilled—a fact which causes growing frustration on the side of NNWS. Notwithstanding these frustrations, the treaty is still fully operational and parties to it last reviewed it in May of 2015 at the UN Headquarters in New York.

The CFE Treaty was concluded between NATO and the Warsaw Pact in 1990 after CFE negotiations had superseded sixteen years of unsuccessful efforts to agree on mutual and balanced force reductions (MBFR) for the European continent.<sup>26</sup> The CFE Treaty is a classic, dyadic, East–west agreement achieved at a time where its design was already anachronistic because of rapid changes in the Eastern bloc. CFE is based on the idea of a perfect balance of forces between two "groups of states" (meaning NATO and the Warsaw Pact). The treaty led

23 For the treaty text see <http://www.un.org/disarmament/WMD/Nuclear/NPTtext.shtml>.

24 Ibid.

25 These states are India, Israel, North Korea and Pakistan.

26 For the treaty text see <http://www.osce.org/library/14087?download=true>.

to the destruction of approximately 70,000 pieces of treaty-limited equipment (TLE) in five categories,<sup>27</sup> eliminated the two blocs' ability to launch large-scale surprise attacks on one another, and established a hitherto unmatched level of military transparency. Even though the treaty has been hailed as the, "cornerstone of European security", much of its relevance vanished shortly before and during the negotiation process and even more so in the following years.<sup>28</sup> The basic Western goal in the negotiations was to ensure that Western Europe is no longer threatened by a numerically superior force that could rapidly attack through coordinated pincer movements from the north and the south. With Mikhail Gorbachev's 1988 announcement at the UN General Assembly of the intention to unilaterally withdraw Soviet forces and military equipment from Eastern Europe<sup>29</sup> and the subsequent signs of disintegration of the USSR, this goal was already partly achieved. Nevertheless, in the following years, Russia saw CFE increasingly as a political instrument with which to shield itself from the possible military implications of NATO's eastward enlargement and successfully lobbied for an adaptation of the treaty that would take into account the power shifts in the European security landscape. Thus, in 1999, parties to the Treaty negotiated an adapted version (the ACFE Treaty). Until today, almost all parties to the Treaty continue to meet regularly at the CFE decision-making body: the Joint Consultative Commission (JCG) in Vienna.

Taken together, both agreements have gone through periods of extreme power shifts, such as the end of the Cold War and the dissolution of the Soviet Union. Both are still with us. And it might be that institutional autonomy and cost considerations are (partly) responsible for this fact. However, as I will point out in the next section, it is not only institutional resilience *per se* that matters but also institutional effectiveness.

### What Reality Tells Us

In a future world in which arms control institutions help to achieve a stable environment with fewer nuclear weapons and, ultimately, the disarmament goal

27 The five CFE weapons categories are battle tanks, armoured combat vehicles, artillery, combat aircraft and attack helicopters.

28 Cf. Christopher Coker, "A Farewell to Arms Control: The Irrelevance of CFE", in *In Search of Stability: Europe's Unfinished Revolution*, Gerald Frost and Andrew McHallam (eds.), pp. 163–91. European Defence and Strategic Studies Annual 2. London: Adamantine Press, 1992.

29 Mikhail S. Gorbachev, *Mikhail Gorbachev: Prophet of Change: from the Cold War to a Sustainable World*, Forest Row, East Sussex: Clairview, 2011, p. 16.

of zero nuclear weapons, the sheer fact of the continued existence of these institutions will most likely not be enough to avert backsliding into vertical and horizontal nuclear proliferation or regional instability. Institutional resilience alone, as understood in constructivist and neoliberal terms, tells us little about the political role that institutions play.<sup>30</sup> Instead of focusing too much on resilience from an artificial institutionalist point of view, we should ask: Are the institutions still effective?

To make my point, I return to the CFE and NPT treaties. As already explained, the CFE Treaty is *de jure* still operational. However, Russia, the most important CFE party, “suspended” the treaty in 2007 and walked out of the JCG in 2015. Moscow claims to be in compliance with the overall ceilings that limit Russian conventional military hardware—a claim no one can verify. While this state of affairs is already unsatisfactory, the more important points are that the treaty *de facto* no longer reflects the European security landscape (in fact, it still reflects the year 1990), that parties have not been able to bring into force the updated ACFE version for the last sixteen years (a central Russian demand), and that one of the main provisions (military transparency through notifications and on-site inspections) is being implemented neither by Russia nor by NATO member states with respect to one another. In short: the institution is still there, but due to political disagreements, it is almost completely ineffective.<sup>31</sup>

The NPT is a bit of a different story. Resting on three “legs” (non-proliferation, peaceful use, and disarmament), NWS agreed to strengthen the disarmament “leg” in exchange for the indefinite extension of the treaty in 1995. Two particular initiatives—the establishment of a Middle East WMD-free zone and strengthened efforts by the NWS to achieve nuclear disarmament—were to have served as means to achieve this end.<sup>32</sup> Twenty years later, a Middle East WMD-free zone is still no more than wishful thinking, and the so-called “P5 process” of the NWS has not yielded any tangible results.<sup>33</sup> Taking into account the ongoing massive nuclear-weapons modernization programs in the

30 Cf. Barany and Rauchhaus, 2011.

31 Cf. Łukasz Kulesa, “The Role of Arms Control in Future European Security” in *Security and Human Rights* 25, 2014, no. 2, pp. 221–234.

32 Cf. Randy Rydell, “Looking Back: The 1995 Nuclear Non-proliferation Treaty Review and Extension Conference”, Washington: ACA, 1 April 2005, accessed 24 November 2015. [https://www.armscontrol.org/act/2005\\_04/LookingBack](https://www.armscontrol.org/act/2005_04/LookingBack).

33 Alexei Arbatov, “The ‘P5’ Process: Prospects for Enhancement”, Deep Cuts Working Paper 3, Hamburg: IFSH, January 2015, accessed 18 November 2015. [http://deepcuts.org/images/PDF/DeepCuts\\_WP3\\_Arbatov\\_UK.pdf](http://deepcuts.org/images/PDF/DeepCuts_WP3_Arbatov_UK.pdf).

five states,<sup>34</sup> NNWS have become increasingly frustrated that the disarmament goal is not being met. A new initiative that focuses on the humanitarian and environmental impact of nuclear weapons brings together more than 160 states with the aim of finally closing the legal gap for the elimination of nuclear weapons, which the NPT does not foresee.<sup>35</sup> Critics infer that a turn to a nuclear-weapons convention or a ban treaty would only help to further undermine the operation of the NPT.<sup>36</sup> In short, the institution is still there but it is, at least in part, ineffective and greatly disputed.

Given the poor state of these two institutions, it could be asked why states have not yet abandoned them. Is it for reasons of cost or because the institutions have acquired lives of their own (like “institutional zombies”)? The answer is that it does not matter. In both cases, the conundrum is not why they are still there, but why they are so ineffective. The general constructivist and neoliberal narratives are not helpful in explaining this conundrum. Therefore, in the next section, I will return to the neo-realist narrative of interest by focusing on the problematic principle of deterrence and its consequences for a stable transition to lower numbers and ultimately to zero nuclear weapons.

### The Problem of Deterrence

As noted previously, the near-perfect equilibrium of power in the Cold War days was more conducive to institutionalized cooperation on arms control than the period of power shifts that followed the end of the Cold War. However, U.S.-Russian mimicking of Cold War institutional frameworks in post-Cold War agreement-making (see the 2010 New START Treaty, which stipulates equal limits for the two states) points to a somewhat more important variable: a shared interest. The question is, what is this interest and how does it interact with the vision of a stable transition to lower numbers of nuclear weapons and ultimately to zero nuclear weapons?

According to neo-realists, the prime concern of states in a world of anarchy is to ensure their survival.<sup>37</sup> During the Cold War days, this interest in survival

34 See John Mecklin, “Disarm and Modernize” in Washington: Foreign Policy on-line 24 March 2015, accessed 27 November 2015, <http://foreignpolicy.com/2015/03/24/disarm-and-modernize-nuclear-weapons-warheads/>.

35 Tom Sauer, “The NPT and the Humanitarian Initiative: Towards and Beyond the 2015 NPT Review Conference”, Deep Cuts Working Paper 5, Hamburg: IFSH, April 2015, accessed 24 November 2015, [http://deepcuts.org/images/PDF/DeepCuts\\_WP5\\_Sauer\\_UK.pdf](http://deepcuts.org/images/PDF/DeepCuts_WP5_Sauer_UK.pdf).

36 Oliver Meier, 2015.

37 Cf. Waltz 1979, p. 91.

took on the dyadic form of mutual nuclear deterrence *and* cooperative regulation of the deterrence relationship through arms control agreements.<sup>38</sup> The United States and the Soviet Union shared an interest in mutual survival by threatening each other with mutual extinction. It is for this reason, amongst others, that nuclear-weapons proponents infer that it is *exactly* the principle of mutual nuclear deterrence that ultimately ensures survival by preventing large-scale conventional wars akin to World War II.<sup>39</sup> This perception<sup>40</sup> is still prevalent amongst political and military elites in a number of states, particularly in the nws. Today, this shared interest takes on the strange form of virtually continuing the basic preconditions for cooperation during the Cold War even though the power variable has undergone strong alterations in realms other than the nuclear (e.g., economic, defence budgets, size of population, living standards communications technology, and so forth). While there is no longer a near-perfect state of power equilibrium, the practical manifestation of the previous power equilibrium in the realm of nuclear deterrence and arms control persists in the equal numbers agreed upon under the bilateral U.S.-Russian New START Treaty.<sup>41</sup> In short, the nuclear deterrence relationship of the United States and Russia still works as a limited-cooperation enabler. At the same time, it also strongly discourages large-scale cooperation that goes beyond the narrow focus of controlling nuclear arms at equal levels.

The deterrence relationship of the United States and Russia is essentially a security relationship that is based on mutual mistrust and permanent caution.<sup>42</sup> Its fundamentals are survivable second-strike capabilities with hundreds of American and Russian nuclear weapons on hair-trigger alarm that can be aimed at targets within the United States and Russia in only a few minutes. It is not far-fetched to assume that the principle of nuclear deterrence would

38 Cf. Thomas C. Schelling, *Arms and influence*, Westport, Conn.: Greenwood Press, 1966.

39 Cf. for example, Bruno Tertrais, "In Defense of Deterrence: The Relevance, Morality and Cost-Effectiveness of Nuclear Weapons." Paris: IFRI (2011), accessed 24 November 2015, <http://www.nonproliferation.eu/web/documents/other/brunotertrais4ebbd42d7115.pdf>.

40 It could also easily be termed a conviction or belief. See Ward Wilson, "How Nuclear Realists Falsely Frame the Nuclear Weapons Debate", in *Bulletin of the Atomic Scientists on-line*, Washington 7 May 2015, accessed 24 November 2015, <http://thebulletin.org/how-nuclear-realists-falsely-frame-nuclear-weapons-debate8306>.

41 Arms Control Association, "New START at a Glance", Washington: ACA, 15 October 2010, accessed 18 November 2015, <http://www.armscontrol.org/factsheets/NewSTART>.

42 Cf. Ivan Oelrich, "U.S. Nuclear Force Structure and Deep Reductions", Hamburg: IFSH, October 2013, accessed 7 December 2015, [http://deepcuts.org/images/PDF/DeepCuts\\_WP1\\_Oelrich.pdf](http://deepcuts.org/images/PDF/DeepCuts_WP1_Oelrich.pdf).

most likely be at the core of an institutional framework for stability at lower numbers. If nuclear-weapons states had enough confidence in the actions of one another (the trust factor), and if the conventional military capabilities of one state did not allow it to dominate all others (a crucial aspect of the power factor), a world of zero nuclear weapons would at least become a possible future option. However, if the level of mistrust was still too high and/or the relative distribution of power were too uneven, nuclear deterrence would probably continue to serve the role of a final reassurance measure. More importantly, it could ultimately block the road to zero, even at significantly lower numbers.

Even more discouraging (at least for those nuclear abolitionists who argue from a moral point of view), nuclear deterrence at lower numbers could take on some extreme forms. The targeting policies of nuclear-weapons states could move from targeting mostly military assets (counterforce) to targeting civilian assets (counter value), because these assets might be viewed as having a relatively higher value from the viewpoint of “threat credibility” under the condition of low numbers.<sup>43</sup>

Given these obstacles, it should be seriously asked whether the goal of final abolition provides the same shared interest as the policies of “strategic stability” by means of nuclear deterrence and arms control. Toward that end, the key question is whether it is possible to fundamentally alter the way in which security elites in NWS define security (i.e., survival). Is it possible to increase the intellectual, moral and practical incentives for moving beyond nuclear deterrence relationships?

The arguments in favour of final abolition are well-known. They include the unproven claim of stability through deterrence, the inherent immorality of the principle of nuclear deterrence through retaliation threats, the mistrust inherent in nuclear deterrence relationships, nuclear-weapons mishaps and close calls, the scenario of nuclear holocaust, the likely devastating effects of “nuclear winter”, and so forth.<sup>44</sup> It is exactly these arguments that should provide the necessary basis for a shared interest in overcoming nuclear deterrence relationships in the world. However, as long as these arguments remain as disputed as the policies of “strategic stability”, making the case for zero nuclear weapons will most likely end up only reinforcing the nuclear taboo

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43 This conclusion is disputed in the literature on “small” nuclear deterrence. For an opposing viewpoint see Acton 2011, pp. 35–6.

44 For an overview see George P. Shultz and James E. Goodby (eds.), *The War That Must Never Be Fought: Dilemmas Of Nuclear Deterrence*, Hoover Institution Press publication no. 658. Stanford, California: Hoover Institution Press, Stanford University, 2015.

of the non-use of nuclear weapons but not their complete and irreversible abolition.<sup>45</sup> This might help to achieve lower numbers, but it will most likely not help to achieve zero nuclear weapons.

And here the conundrum of institutional effectiveness comes into play. Both the NPT and the CFE have a disarmament and an arms control objective. In the case of the NPT, the disarmament objective is directly tied to nuclear weapons. Depending on the interpretation of Article VI, it is also tied to conventional weapons. With roughly 16,000 nuclear warheads in stocks worldwide, its disarmament objective is far from being fulfilled, not mentioning the number of conventional weapons spread all over the globe. In the disarmament realm, the NPT is not effective, particularly not if effectiveness is measured against the objective of zero nuclear weapons. In contrast, one could certainly argue that the NPT's effectiveness in the realm of arms control—that is, in preventing the horizontal proliferation of nuclear weapons—is in much better shape. In the CFE case, it is the other way round. The disarmament objective of significantly downsizing conventional weapons and forces was already reached at the end of 1995. However, the arms control objectives of regulating the NATO-Russia military balance and of achieving a mutually satisfactory level of transparency and predictability have been lost in the last sixteen years.

What both agreements have in common is that they are negatively affected by the prevailing interest of certain states—first and foremost the United States and Russia—in the continuation of the principle of nuclear deterrence. Their effectiveness stands and falls with the level of mistrust that guides general relations: a level that constantly interacts with the principle of nuclear deterrence. In the end, both treaties are ineffective because they are hampered by a security definition that puts a premium on nuclear deterrence and, in turn, accepts that full-fledged cooperation of the magnitude of nuclear abolition is impossible as long as nuclear deterrence impedes it.

The neo-realist variable of interest provides an important analytical starting point for assessing long-term cooperation (and thus for institutional resilience in terms of effectiveness) with the aim of controlling and later abandoning nuclear weapons. The shared interest in the principle of deterrence works in two ways: it allows for limited cooperation that leaves the general principle of deterrence untouched, and it manipulates certain means of deterrence according to mutually negotiated standards. It might be possible to move to significantly lower numbers with the deterrence principle intact. At the same

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45 Jacques E. Hymans, "The Psychology of Nuclear Restraint" in *Bulletin of the Atomic Scientists on-line*, Washington, 12 October 2015, accessed 24 November 2015, <http://thebulletin.org/psychology-nuclear-restraint8796>.

time, deterrence prevents its own removal as it is cause and consequence of mistrust. It fundamentally stands in the way of nuclear abolition and impairs the effectiveness of institutions that deal with disarmament and arms control objectives. Beyond these more general observations, the following section highlights three additional factors that could interfere with the daily routine of arms control and disarmament institutions.

### **Resilience *and* Effectiveness: Some Lessons Learnt**

As argued before, a shared interest in overcoming the deterrence principle is fundamental to achieving zero nuclear weapons. Once this interest has broad support amongst states, the problem of how to make the resulting institution(s) resilient to perturbations will still loom large because a world free from nuclear weapons will not be free from crises and disruptive developments. Therefore, in the last section of this article, I treat the issue of a future world of zero nuclear weapons as accomplished, thereby limiting the role of institutions to upholding the grand bargain of complete abolition. As I will show, beyond the continuation of a shared interest, institutional resilience and effectiveness will depend on three additional factors: adaptability, courtesy and clarity. By no means are these three factors exhaustive in the sense of comprehensively explaining institutional resilience and effectiveness. Further factors exist and can be added depending on the theoretical narrative that underpins their analysis.<sup>46</sup> Also, these three factors serve the mere purpose of “headlines” under which to comprise additional path-dependent factors such as linkages, norm-challenging speech and behaviour, and institutional birth defects. Given the CFE and NPT frameworks, however, the three general factors stick out from an empirical point of view. In the following, the interplay of these two institutions is again highlighted.

*Adaptability.* Any institution must be able to adapt to be resilient. Continuous adaptation of institutions to changed political, technical, environmental or societal circumstances remains a key component of strengthening institutional resilience and effectiveness. This is important, as institutions at the level of zero nuclear weapons would have to have extremely intrusive and timely verification mechanisms that would have to be kept up to date.<sup>47</sup> The potential

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46 Cf. Harald Müller, *Die Chance der Kooperation: Regime in den Internationalen Beziehungen*. Darmstadt: Wiss. Buchges, 1993.

47 Cf. Hinderstein 2010.

nuclear proliferation effects of Additive Manufacturing (3-D printing) are just one example of the possible impact of rapid technological change.<sup>48</sup>

However, review cycles and efforts at “contractual engineering” are as dependent on interest overlap as they were during the initial phase of institution establishment. Review cycles that continually fail to yield significant political results (as in the cases of the CFE and NPT) are strong indicators of a certain degree of dysfunctionality.

The handling of the CFE adaptation in the late 1990s underlines another problem that comes with institutional adaptation.<sup>49</sup> At that time, the Clinton administration tied the withdrawal of a few hundred Russian troops and additional military equipment from the breakaway regions of Transnistria (Moldova), South Ossetia and Abkhazia (both in Georgia) to the future of the treaty. While formally in line with the stipulations of the treaty, the U.S. demand created a political dead end that ultimately helped to collapse the CFE consensus.<sup>50</sup> Linkages to policy issues that are out of the political scope of an institution can create enormous obstacles to the further operation of that institution.<sup>51</sup> The adaptation of the NPT to an indefinite agreement in 1995 has caused similar problems, because it was achieved against the background of political linkages to the Middle Eastern WMD-free zone and increased commitments to fulfil Article VI of the treaty. Since both of the objectives behind these linkages remain unfulfilled, the disputes surrounding these political linkages have become an impediment to the effectiveness of the treaty—at least in the view of most NNWS.

Taken together, to guarantee the continued relevance of institutions (not only in a political sense), institutions must be able to adapt to changing circumstances and interests. However, adaptability alone does not guarantee their effectiveness. Basically, efforts to adapt an agreement break down to the act of re-negotiating it, which means that again a critical mass of shared interest has to be present to make re-negotiation possible and successful. The examples of the CFE (in 1999) and the NPT (in 1995) show that adaptation can increase the lifetime of institutions as such. However, as the two cases also show, adaptation can cause new problems or increase existing problems with the operation of an institution. Adaptability is thus both a precondition and a

48 See Matthew Kroenig and Tristan Volpe, “3-D Printing the Bomb? The Nuclear Nonproliferation Challenge” in *The Washington Quarterly* 38, 2015, no. 3, pp. 7–19.

49 For the negative consequences associated with regime adaptation see Oran R. Young, “Regime Dynamics: The Rise and Fall of International Regimes”, in *International Organization* 36, 1982, no. 2, pp. 277–297.

50 Cf. Kulesa 2014.

51 Cf. Müller 1993, pp. 43 et seq.

potential threat to an institution's continued effectiveness. Dealing with these potential threats means taking into account another factor that influences institutional resilience and effectiveness: courtesy.

*Courtesy.* States that are involved in upholding and shaping institutional operations should be extremely wary of the first signs of frustration in the institutional framework. Early institutionalists such as Karl Deutsch pointed to this precondition for the successful operation of cooperative efforts under the headline of "responsiveness": "the ability of [...] political decision-makers and relevant political elites to redirect and control their own attention and behaviour so as to enable rulers to receive communications from other political units".<sup>52</sup> As a matter of fact, states too often fail to pay enough attention to each other's charges (or simply ignore them) and continue to act in the institutional framework as if, by some magic trick, the problems will disappear. (Again, the NPT disarmament debate and the year-long Russian frustration with NATO's non-ratification of the ACFE are cases in point.) As a result, continued frustration might trigger a "cascade of disaffection", which often starts with the act of norm-challenging speech. One of the unintended effects of norm-challenging speech is that acts of vocal dissatisfaction, even though aimed to preserve a certain norm (e.g., the NPT "disarmament" Article VI), actually help to erode that norm, as the act of debate demonstrates that something is wrong with the norm.<sup>53</sup> Norm-challenging speech can lead to calls for re-negotiation, which can prepare the ground for norm-challenging behaviour and can ultimately lead to non-compliance and the collapse of institutionalized cooperation. States' lack of courtesy and disaffection can also relate to an inability to bridge divisive issues at the very beginning of agreement-making. In such cases, states intentionally avoid clarity: a circumstance that can backfire the longer the institution is operational.

*Clarity.* Diplomats often refer to the formula of "constructive ambiguity" in the process of agreement-making to bridge divisive issues of divergent interests or to ease technical difficulties.<sup>54</sup> As in any other realm of international cooperation, arms control agreements provide many examples of that kind.

52 Karl W. Deutsch, *Political Community and the North Atlantic Area: International Organization in the Light of Historical Experience*, Princeton, N.J.: Princeton Univ. Press, 1957, p. 37 et seq.

53 See Elvira Rosert and Sonja Schirmbeck, "Zur Erosion Internationaler Normen: Folterverbot und Nukleares Tabu in der Diskussion." *Zeitschrift für Internationale Beziehungen* 14, 2007, no. 2, pp. 253–288.

54 "Constructive ambiguity" is attributed to Henry Kissinger, see Bill Keller, "Mitt and Bibi: Diplomacy as Demolition Derby", *The New York Times on-line*, 12 September 2012, accessed 30 November 2015, <http://keller.blogs.nytimes.com/2012/09/12/mitt-and-bibi-diplomacy-as-demolition-derby/?hp>.

Consider, for instance, the CFE, which refers to two “Groups of States”: NATO and the Warsaw Pact. At the time of negotiation in 1990, some members of the Warsaw Pact insisted on such a neutral formula because they did not want to further cement their future status as members of that alliance.<sup>55</sup> Another example is closely tied to the CFE and the norms that underpin the corresponding institutions under the auspices of the OSCE. Two such norms, the “indivisibility of security” and states’ “sovereign equality” are basically in contradiction—a recognition of the political circumstances at the time of the 1975 CSCE Helsinki Decalogue, which helped to build a general security consensus on the basis of respect for the *status quo*.<sup>56</sup> Forty years after the Decalogue, Russian officials still refer to the “indivisibility of security”, inferring that the continued existence of NATO as an exclusive defence organization runs counter to the principle.<sup>57</sup> Another example is the aforementioned Article VI of the NPT. While most NPT member states interpret the formula of negotiating, “a treaty on general and complete disarmament”<sup>58</sup> as first and foremost stating the *nuclear* disarmament obligations of the NWS, some of the latter (most notably Russia) interpret it as also including *conventional* disarmament, and, thereby, as either a precondition or a development that should happen in

55 Cf. Wolfgang Zellner, *Die Verhandlungen über Konventionelle Streitkräfte in Europa: Konventionelle Rüstungskontrolle, die neue politische Lage in Europa und die Rolle der Bundesrepublik Deutschland*. Demokratie, Sicherheit, Frieden 87, Baden-Baden: Nomos, 1994.

56 The first Helsinki principle speaks of, “sovereign equality [and the] respect for the rights inherent in sovereignty”. This principle includes explicitly the right, “to be or not to be a party to bilateral or multilateral treaties including the right to be or not to be a party to treaties of alliance”. It follows directly after the preambular recognition of the “indivisibility of security in Europe”. Over the years, both stipulations have become key principles of the European security order. Particularly, the agreements of the 1990s—most prominently in NATO-Russian political-military cooperation—have made the principle of the “indivisibility of security” a central declaratory element of the new political order. Even though the Cold War is long gone, forty-one years after their inception, these two principles are still at the declaratory heart of the European security order. In relation to each other, they form a classical paragon of an internal contradiction, as every party can basically find any sovereign decision of any other party to join any treaty or alliance to be an infringement to its security and hence contrary to the indivisibility of security. Lawyers call such discrepancy a *contradictio in adjecto*.

57 Cf. President of Russia, *Speech at the 43rd Munich Conference on Security Policy*. 2007, accessed 17 July 2009, <http://www.securityconference.de/konferenzen/rede.php?sprache=en&id=179>.

58 NPT Treaty.

parallel with nuclear disarmament.<sup>59</sup> If the latter view is taken as the ultimate goal of Article VI, nuclear disarmament will probably be deferred forever.

While such formulations help diplomats to overcome difficult hurdles in the short term, the formulations themselves can become bones of contention over the long run if interpretations start to diverge. Whether they can be considered institutional “birth defects” that relate to the early stages of agreement-making or as outcomes of later stages of re-negotiating (adapting), omitting clarity always bears the risk of deferring the possible resolution of contentious issues again and again, thus preparing the ground for growing frustrations and norm-challenging speech and behaviour. The point here is not to underestimate the historico-political or technical difficulties of negotiation and the considerations behind contractual outcomes. The point is that a future institutional framework for a world free of nuclear weapons should aim to close all possible loopholes for re-interpretation from the very beginning. Toward that end, it would have to be clear and precise in its provisions.<sup>60</sup> International security and stability at zero nuclear weapons is too serious an issue to rely on institutions that allow for divergent interpretations of principles, norms and rules.

## Conclusion

This article started from the assumption that the stable transition to a world with lower numbers of nuclear weapons and ultimately with zero nuclear weapons would most likely rely on international institutions to achieve and uphold these outcomes. According to the historical accounts of arms control policies in the NPT and CFE, the preconditions for their establishment are a more even distribution of power in the international system and, more importantly, a shared interest in moving past the principle of nuclear deterrence relationships. So far, the nuclear deterrence relationship of the United States and Russia greatly discourages large-scale cooperation and helps to solidify

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59 Statement by Mikhail I. Uliyanov, Acting Head of the Delegation of the Russian Federation at the 2015 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons (Cluster 1: nuclear disarmament), New York, 1 May 2015, accessed 24 November 2015, <http://www.pircenter.org/media/content/files/13/14308848160.pdf>.

60 Jacques Derrida, and before him Friedrich Nietzsche, pointed out that there is no such thing as non-ambiguous language from a philosophical point of view (I would like to thank Benoît Pelopidas for referencing this). However, the argument here is that from a practical policy-making point of view, ambiguous treaty language can become a “gateway” for frustrated states in the above-described process of a “cascade of dissatisfaction” and should, therefore, be limited as much as possible.

the existing mistrust. In relation to arms control and disarmament institutions, nuclear deterrence works both as a limited-cooperation enabler and as a disabler, since the institutions' effectiveness stands and falls with the level of mistrust that guides general relations: a level that constantly interacts with the principle of nuclear deterrence. As has been shown, the question of the resilience of arms control and disarmament institutions to different political or other pressures rests mainly on their continued ability to function effectively. Lessons learnt from the CFE and NPT treaties suggest that the more general factors of institutional adaptability, participatory courtesy, and inherent clarity will have an impact on their resilience in terms of effectiveness.