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Avoiding Non-Proliferation Atrophy:

The effectiveness of multilateral cooperation, regime dynamics and the case of nuclear non-proliferation

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Introduction

This study is about the pathways and the mechanisms of effective multilateralism. The purpose is to explore the sources of organized cooperation as a means to manage common (in)security problems and, secondly, to assess the level of effectiveness in a number of multilateral efforts across the nuclear non-proliferation domain. In particular, this research seeks to find out what dynamics can possibly count for the establishment of agreements and the implementation of operative arrangements and, second, whether and to what extent endogenous qualities pertaining to the specific arrangement matter for explaining variation in the effectiveness of non-proliferation regimes.

The questions framing the analysis and structuring the empirical evaluation are the following. First, which governing dynamics stemming from international cooperation theories and regime approaches can possibly lead to more or less effective arrangements over time? Second, how much explanatory power do endogenous qualities involving attributes of arrangements themselves, such as implementation monitoring, reporting and reviewing processes, plausibly command to understand relative institutional effectiveness? Third, are novel non-proliferation arrangements becoming effective substitutes

for older ones? In essence, when, why and how are joint efforts to mitigate nuclear risks proving to work?

In order to uncover causes of institutional (in)effectiveness, two distinct phases of cooperation are taken into account, that is, the static stage of the establishment and, more importantly, the dynamic stage of the implementation of the cooperative endeavor under analysis. This latter aspect in the vicissitudes of a system of rules, norms and practices has been analytically neglected. While previous non-proliferation studies have focused on the 'front-end' of the cooperation loop by examining explanatory factors leading states to cut deals in the first place, others have focused on the 'back-end' of it and explored the roles of coercive elements, including laws and regulations, sanctions and the threat or use of force.[1] Less has been done with regard to cooperative, rather than coercive, elements of international regimes, and non-proliferation regimes in particular. While it is undisputed that effective problem-solving entails multi-party cooperation, the institutional aspects of implementation and its review are underexplored. Both international cooperation and non-proliferation studies, therefore, tend to overlook the dynamic, recursive nature of cooperation, or what happens

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[1] On sanctions, see Brzoska, "The Role of Sanctions in Non-Proliferation," in Meier and Daase, *Arms Control in the 21st Century: Between Coercion and Cooperation*. 2013, 123-45. Also, Solingen, *Sanctions, Statecraft and Nuclear Proliferation*, 2012. On the role of law and coercion, see Bunn, "Force, Preemption and WMD Proliferation" and Joyner, "International Legal Responses to WMD Proliferation," in Busch and Joyner, *Combating WMD*, 2009.

between 'front- and back-end'. It is reasonable to assume that a great deal can be learned about changes in nuclear multilateralism by examining the sources of cooperation in the establishment phase and its evolution in the implementation phase. In addition, most scholarly work on the theme of regime effectiveness have centered on examinations of external factors to account for variation in efficacy across institutions or regimes, including the presence of powerful actors, the distribution of material resources and power capabilities, the patterns of interests entertained by key participants, or the incidence of crises. Accordingly, internal institutional features, including the rules, norms, operating procedures and programs, are considered as if they have no independent explanatory command because these endogenous properties are ultimately modeled by powerful and self-interested actors. Conversely, this research problematizes our (necessarily) multilateral governance arrangements through which we come to organize ourselves and explores intra-regime dynamics as factors potentially affecting institutional performance.

Informed by International Relations theories that seek to explain cooperation and by narrower approaches to the theme of international regimes, single-factor explanatory accounts with regard to questions of effectiveness can be specified and their respective propositions 'tested' in

the empirical sections. This research thus analyzes selected cases of multilateral non-proliferation cooperation with the theoretical arguments presented by the three main International Relations theories of Realism, Neoliberalism and Constructivism, identifies the strengths and weaknesses of each and determines which theory-based model has greater explanatory heft. The fundamental premise of this thesis is that, no matter the issue at stake, common (in)-security problems are human-driven. Their root causes are pervasively and perversely anthropological in nature. Far from being exclusively dictated by exogenous trigger events, such as crises or changes in the distribution of power-based resources, these causes are embedded in dynamics pertaining to both the 'institutional setup' and to the 'cognitive terms of trade' that parties entertain around a given multilateral agreement. Both institutional and cognitive milieus are not static but evolve over time and, importantly, interact with one another to produce either progress or regress, effectiveness or stagnation, with respect to the objectives of a given instrument.

It is to be acknowledged that the evaluation of the problem-solving capacity of a given arrangement is a daunting task to design, in the first place, and perform,

partly explaining the paucity of related works.[2] Further, information is scarce because of the sovereignty-conscious, sensitive nature of the issue area. As such, subjective and qualitative assessments in the form of semi-structured interviews and interactions with informed observers are employed to complement the case-study sections.

The case studies fall within the realm of multilateral nuclear non-proliferation cooperation. The first case relates to the Nuclear Non-Proliferation Treaty and its implementation review process, as it is widely considered to be both the classic locus of multilateral non-proliferation efforts and the epitome of attempts at dealing with the nuclear dilemma — getting nuclear energy without proliferation risks while paving the way for disarmament. It focuses on the specifics related to the text of the NPT and its associated stocktaking review exercises. In so doing, an exploration into whether and how this first historical instance of non-proliferation governance has achieved its ambitious mandate becomes possible. The second case deals with United Nations Security Council Resolution 1540, which was adopted in 2004 in order to cope with the emergent nexus between non-state nuclear risks and proliferation. The third case

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[2] Hegemann et al*., Studying Effectiveness in International Relations. A Guide for Students and Scholars*, 2013.

deals with the non-proliferation initiative of the Nuclear Security Summits held between 2010 and 2016.

While non-state proliferation has a narrower policy focus, and arguably is a rather recent phenomenon around which organized cooperation has been on the rise, non-dissemination and disarmament efforts of nuclear weapons are as old as the United Nations itself, if not even older. Notwithstanding important differences between the cases in institutional design (treaty- or non-treaty-based), problem area (state- or non-state-led proliferation risks), standard operating procedures (monitoring and review frameworks), as well as historical context, these three types arguably serve the common triadic purpose of furthering the regime's primary goals, that is, halting the horizontal proliferation of nuclear weapons, reducing vertical proliferation on the way to nuclear disarmament and, thirdly, facilitating peaceful and safe nuclear energy.

When it comes to assessing their problem-solving or risk mitigation capacity, one could argue that progress is easier to achieve with regard to less comprehensive, technical policy areas, such as nuclear security and non-state dangers, while it is harder in more politicized fields, such as state-led proliferation or disarmament. This is not, however, a foregone conclusion. Not only issues of sovereignty and national security equally

pervade joint efforts to stem non-state proliferation risks, but also the relative successes and failures of a given regime component arguably affect the other and the consequences may reverberate across other elements of the NPT-based non-proliferation regime.

The research findings come from an examination of both secondary and primary sources. When it comes to the use of secondary sources of evidence, the study draws on two bodies of literature. The first strand of works stems from the analysis of international regimes. This literature is useful because it depicts a wealth of explanatory pathways through which multilateral cooperative arrangements succeed or fail. A second strand of literature, sometimes called grey literature, is drawn upon in order to gather additional empirical evidence. These works include newspapers accounts, conference records and proceedings, reports, documents and guidelines from both governmental and non-governmental organizations, as well as publications from non-advocacy organizations. These literatures are supplemented by the use of semi-structured interviews with individuals who had been involved in relevant multilateral negotiations as well as with non-governmental experts. In particular, interview data form and inform the investigation of the two cases of the Nuclear Security Summit process and Resolution 1540, for both of which comparatively less literature exists.

The thesis is presented in six chapters and is organized in the following way. Chapter I introduces the research topic and explains the reasons why it matters, both practically and scientifically, against the backdrop of contemporary developments across the nuclear non-proliferation domain. It then proceeds to define and circumscribe critical notions used, such as international regimes, implementation and effectiveness. Chapter II problematizes sharpens the research focus on the hard case of non-proliferation cooperation. A critical examination of the scholarly writings on regimes is provided in order to expose three sets of approaches, each of which highlights three different single-factor dynamics, that is, (material) power, (self)-interest, and (common) knowledge, as the central operating mechanism by which regimes get formed, stay their course and, eventually, atrophy. Emphasis is given to questions of effectiveness. Consequently, this chapter operationalizes the single-factor explanatory accounts employed to diagnose the cases. Chapters III to V apply this framework to the three case studies. Each chapter begins by tracing the history and evolution of these three different systems of non-proliferation governance and concludes by reflecting on the implications on problem-solving effectiveness. For each, the arguments are presented systematically so as to determine what generalizable similarities and differences

might be identified. The concluding chapter VI provides a summary of the findings and draws preliminary lessons that can be learned to tackle the question of how arrangements can be designed in ways that would make them more effective over time.

Chapter One

1.1 Setting the stage

Current events and developments in the way in which several issues of human affairs — in spheres ranging from economic and financial cooperation to environmental and security matters — are governed highlight the need to reconsider the theme and, most importantly, the modalities of multilateral cooperation and reassess the status of international regimes. Britain's 2016 decision to leave the European Union, Trump's concurrent ascendancy to the presidency of the United States and his unilateral, 'go-it-alone' approach to global problems, growing East–West divisions with an increasingly assertive China, the tendency to economic nationalism and protectionism are symptoms of a diffuse cooperation malaise. These are trends that seem to point to a widespread crisis of multilateralism.[3] Notably, important structures of multilateral problem-solving and rules-based approaches have been fraying. This is precisely why the analysis of the pathways and mechanisms of multilateral cooperation acquires saliency.

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[3] See, for example, Wolf, "In Conversation: Martin Wolf on the Global Economy," *Lowy Institute*, 19 May 2017; Magnuson, "Is Brexit the Beginning of the End for International Cooperation?" *The Conversation*, 30 March 2017; See, also, Spence, "Brexit, Trump, and a New Economic Order," *Japan Times*, 30 November 2016, as well as by the same author, "The Global Economy's New Rule-Maker," *Project Syndicate*, 29 August 2017. Among the top global risks that the World Economic Forum has pinpointed is a "build-up of mercantilist and protectionist pressures against a backdrop of rising nationalist and populist politics." See, in World Economic Forum, *Global Risks Report 2018*, 6.

Present-day geopolitical turbulences raise a number of tough questions for existing multilateral governance arrangements. In particular, their effectiveness in supporting states and other actors achieve shared objectives and strengthen the rules, norms, procedures and organizations in given areas of international affairs has been called into question. The area of international security cooperation, and the nuclear non-proliferation domain in particular, is no exception in this regard. To be sure, troubling developments in the nuclear non-proliferation regime and signs of rifts across the international community on the actions through which proliferation should be tamed and non-proliferation pursued have been around for a longer time.[4]

After wide agreement on an action plan to boost cooperation and strengthen the regime was secured at the 2010 Review Conference of the 1968 Treaty on the Non-Proliferation of Nuclear Weapons (NPT), both NPT's nuclear and non-nuclear weapons states have arguably failed to implement it, or even backtracked on some points thereof.[5] Relatedly, the 2015 NPT Review Conference could not reach agreement on a substantive final declaration. The agreement to even hold a conference on the establishment

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[4] Arbatov, "An Unnoticed Crisis: The End of History for Nuclear Arms Control?" *Carnegie Endowment for International Peace*, 2015.

[5] See, for example, Wan, "Why the 2015 NPT Review Conference Fell Apart," Center for Policy Research, United Nations University, 2015; Mukhatzhanova, "Implementation of the Conclusions and Recommendations for Follow-On Actions Adopted at the 2010 NPT Review Conference: 2015 Monitoring Report," *Center for Nonproliferation Studies*, 2015.

of a zone free of nuclear weapons and other weapons of mass destruction (WMDFZ) in the Middle East remains a case in point.[6] Moreover, negotiations on a multilateral treaty banning fissile materials for nuclear weapons (FMCT) have been stuck for several years, if not decades. The terms of the 1987 Intermediate-Range Nuclear Treaty (INF) and the 2010 New Strategic Arms Reduction Treaty (New START) are practically no longer implemented, if not openly contested.[7] Compounding the bleak picture, U.S.-Russian cooperation on nuclear safety and security matters ended in 2014 and Russia did not take part in the rounds of talks that led to the last Nuclear Security Summit in 2016. Further, the 1996 Comprehensive Nuclear Test-Ban Treaty (CTBT), a key component of the global nuclear non-proliferation architecture, has yet to enter in force for a lack of few key ratifications.[8]

The non-proliferation regime, anchored around the 1968 NPT, including a constellation of other arms control, non-proliferation and disarmament agreements, appear to find itself deadlocked between broader dynamics of politics mitigating against the reinforcement of, and even

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[6] Foradori and Malin, "A WMD-Free Zone in the Middle East: Creating the Conditions for Sustained Progress," Belfer Center for Science and International Affairs, 2012; Bino, "The Pursuit of a WMD-Free Zone in the Middle East: A New Approach," *Chatham House*, 2017; Davenport, "WMD-Free Middle East Proposal at a Glance," *Arms Control Association*, 2017.

[7] See Arbatov, "An Unnoticed Crisis" *Carnegie Endowment for International Peace*; Kimball, FMCT at a Glance, *Arms Control Association*, 2017. On New START, Reif, "Nuclear Restraint Agreements Under Serious Threat," *Arms Control Association*, 2017.

[8] Reif, Ibid. See also, Melamud et al. *Banning the Bang or The Bomb?* On nuclear security and U.S.–Russia cooperation, *"Laura Holgate on US-Russian Relations," Nuclear Security Matters*, August 2016; Holgate, "The Enduring Challenge of Nuclear Security Coordination," *Arms Control Today*, 2018.

the recourse to, cooperative relations, on the one hand, and narrower dynamics pertaining to the design and operations of arrangements, on the other. Such latter properties are the subject of this study.

There exists, puzzlingly, a great deal of diversity among organized cooperative efforts and variation in effectiveness across the components of the non-proliferation regime. While the cornerstone of the regime as a whole, that is, the NPT, viewed here as both textual agreement (NPT) and operative arrangement in the form of periodic NPT implementation review processes and quinquennial diplomatic conferences, as well as other regime components, such as the CTBT and a possible FMCT, could be taken as examples of the sorry state of nuclear multilateralism, there are also counterexamples highlighting non-proliferation successes. By far the most positive development concerns the peaceful, negotiated solution of the long-lasting case of Iran's nuclear program. After more than a decade of heated debate and inflamed rhetoric, a negotiated multilateral agreement and a fully-fledged, time-limited arrangement was reached in 2015 in the form of the Joint Comprehensive Plan of Action (JCPOA).[9] Despite resistance by the current Trump Administration, the Iran nuclear deal is being effectively

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[9] The parties involved in the negotiations were, besides Iran, the five permanent members of the Security Council, plus Germany and the European Union. See, Samore, "The Iran Deal: A Definitive Guide," *Belfer Center for Science and International Affairs*, 2015.

implemented. Some experts go as far as to claim the JCPOA to be a model that could be replicated for managing future nuclear state proliferation risks and, further, some others herald it as potentially effective blueprint going beyond outdated NPT language by setting innovative standards for cooperation, governance and compliance monitoring.[10] On the contrary, the worsening scenario represented by the nuclear-related controversy with North Korea points to the need for constructive engagement and negotiated agreement. What is more, the North Korean case also testifies to the importance of having a set of institutions in place, such as common rules, procedures and organizations to monitor compliance and review performance.

An additional area where recent positive steps have been taken is with regard to non-state proliferation threats and risks. In spite of the lack of U.S.-Russian nuclear rules-based relations, other cooperative initiatives to regulate technical aspects of proliferation and mitigate novel dangers, such as illicit trafficking, nuclear terrorism and trade in dual-use items, have become more widely accepted as potentially impactful tools and mechanisms. To name a few, the 2003 Proliferation Security Initiative (PSI), the 2004 United Nations Security Council

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[10] See Mount, "The Iran Nuclear Deal and the Future of Nuclear Order," *Council on Foreign Relations*, 2015. See, Biswas, "Iran Deal, NPT and the Norms of Nuclear Non-Proliferation," *The Diplomat*, 18 February 2016. Also, Borger, "Merkel Offers German Role in Iran-style Nuclear Talks with North Korea," *The Guardian*, 10 September 2017.

Resolution (UNSCR) 1540 and its Security Council Committee, the 2006 Global Initiative to Combat Nuclear Terrorism, co-chaired by the U.S. and Russia, as well as the Nuclear Security Summits held between 2010 and 2016, have scored a modicum of progress and registered cautious welcoming remarks by ever-more participants.[11]

Be as it may, the current state of multilateral affairs begets some intriguing questions. Why is that some institutional arrangements are more successful and seem to deliver expected results, while others are less successful and seem to atrophy over time? What are, if any, the governing dynamics of institutional effectiveness? In a nutshell, when, why and how are joint efforts to solve common (in)-security problems and mitigate proliferation risks proving to work? In this regard, do institutional features of design and implementation frameworks possibly explain the puzzle?

While the theme of institutionalized cooperation in non-proliferation and these very questions acquire political salience against the backdrop of present-day failures of rules-based multilateralism, so too is the case scientifically. There do not exist a lot of academic studies on the determinants of effectiveness of the nuclear non-proliferation regime and its sub-regimes,

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[11] Belcher, "The Proliferation Security Initiative," in Knopf, *International Cooperation on WMD Nonproliferation*, 2016, 116-140. See, Ogilvie-White, "UN Security Council Resolution 1540," in Knopf, 140-163. On GICNT, see Ërastö and Herbach, "Ten Years of the Global Initiative to Combat Nuclear Terrorism," *SaferGlobe* and *The Centre for Conflict and Security Law*, 2016. On the Nuclear Security Summits, Turpen, "The Nuclear Security Summit Experiment" in Knopf, 182-205.

especially not from a neoliberal perspective. In a recent overview of the political science literature on collective efforts to stem nuclear proliferation risks, Sagan has noted a lack of analyses on non-proliferation arrangements other than those directly stemming from the NPT and the IAEA and concluded by observing that these "newer institutions are crucial elements of the regime and should not be ignored."[12] This study analyzes newer multilateral cooperative ventures by disaggregating the traditional international regime into individual components to explore the sources of effective multilateral cooperation and evaluate progress or regress.

A remarkable development in international politics has been a steady diffusion of cooperative undertakings, so that international regime building efforts have become a pervasive, and perhaps permanent, feature of our contemporary world. In this regard, it is instructive to observe a constant upward trend in the number of both inter-governmental organizations (IGOs), as well as in what can be called 'first-order' and 'second-order' agreements, that is, core umbrella treaties and post-treaty, narrower implementation agreements, respectively. For example, while in 1994 there were 5,401 IGOs and 1,838

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[12] Sagan, "The Causes of Nuclear Weapons Proliferation," *Annual Review of Political Science* 17(14): 225-44, 2011, 239. On the effectiveness of the NPT-based regime, Fields and Enia (2009), Grotto (2010), and Fields (2014). On legitimacy, but still based on the NPT regime, see Rathbun (2006). On domestic politics and economics, see Solingen (2007); on principles and norms, see Rublee (2009) and Müller and Wunderlich (2013). Notably, most of the studies on non-proliferation effectiveness consider variables and explanatory accounts that do not fully take into account institutional variables.

agreements, in 2014 there were 7,756 IGOs and over 2,406 multilateral, inter-governmental treaties.[13] Unsurprisingly, the topic and the dynamics of multilateralism — a process by which three or more entities, usually states, join forces via negotiated agreements, typically involving the presence of international organizations, to solve common (in)-security problems within a given set of commonly shared rules and practices — has garnered a great deal of attention by students and scholars of every academic denomination.[14]

The outburst of institutionalized cooperation has led economists to worry about the "spaghetti bowl" phenomenon.[15] In other words, the stratification of multiple trade agreements, initially established with the aim of enhancing the welfare of the parties, tend over time to interlock with similar agreements struck on a preferential or multilateral scale (hence the image of a plate of noodles), thus causing incoherence and ultimately making parties worse off. Legal scholars are concerned about such phenomena as the "fragmentation of international law" and "treaty congestion".[16] The spread

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[13] Union of International Associations, *The Yearbook of International Organizations*, 2014.

[14] Thin and thick definitions of multilateralism are numerous in the IR literature. Multilateralism can be conceived as a form of institutionalism that commits all parties to follow certain procedural and substantive rules of the game that stabilize behavior and make it predictable (Ruggie 1992, 1993). Institutions are "persistent and connected sets of rules (formal and informal) that prescribe behavioral rules, constrain activity, and shape expectations." (Keohane 1988: 383).

[15] Bhagwati et al. "Trading Preferentially: Theory and Policy." *Economic Journal* 108(449): 1128-1148, 1998.

[16] Koskenniemi and Leino, "Fragmentation of International Law?" *Leiden Journal of International Law* 15(3): 553-579, 1998; Brown-Weiss, "International Environmental Law," *Georgetown Law Journal* 81,

and specialization of tribunals and the intermeshing of agreements at multiple organizational levels is likely to lead to confusion in rule interpretation and application. Similarly, and most recently, social and political scientists working across the disciplinary boundaries of International Relations and International Law refer to "institutional complexity" or "regime complexity."[17] In other words, international regime scholars are investigating the causes and the implications of crisscrossing institutional arrangements governing a specific policy domain.

What is even more puzzling, however, is that these are recurring and observable phenomena in a field known as being averse or, according to the Realist school of thought, immune to long-lasting cooperative endeavors. Using the vocabulary of IR theory, concerns about the distribution of material power across the international system, fears of relative gains (and losses), as well as national security considerations are seen as trumping moves toward the establishment of cooperative relationships. These stumbling blocks to long-lasting cooperation originate from within the Realist paradigm in

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675-710. See also, U.N. International Law Commission, 2006. "Fragmentation of International Law: Difficulties arising from the diversification and expansion of international law."

[17] One of the first scholars in the political science literature interested in exploring questions of growing institutional "density" is Young. See, "Institutional Linkages in International Society," *Global Governance* 2: 1-24, 1996. For recent studies and refinements, Raustiala and Victor, "The regime complex for plant genetic resources." *International Organization* 58(2): 277-309, 2004; Alter and Meunier, "The politics of international regime complexity." *Perspectives on Politics* 7(1): 13-24, 2009; Oberthür and Stokke, *Managing Institutional Complexity.* In addition, Keohane and Victor, Ibid. 7-23.

IR, traditionally employed by political scientists to diagnose cooperative efforts in security affairs, and historically learned and applied by statesmen, diplomats and generals as a rational and pragmatic analytical prism. This point also partly explains why the theme of institutionalized non-proliferation is a 'hard case' for theories of international cooperation and approaches to the study of regimes.

Efforts aimed at regulating the risks posed by nuclear weapons, sensitive materials, delivery means and dual-use technology constitute what is termed as 'non-proliferation'. These formal and informal, bilateral and multilateral, efforts have been conventionally subsumed under the concept of "international regime."[18] As such, the regime of nuclear non-proliferation is the sum of a myriad arrangements that have been set up to deal with the 'three pillars' upon which the whole regime architecture rests — that is, nuclear non-proliferation, nuclear weapons disarmament and the peaceful applications of nuclear energy.[19] No wonder why political scientists and long-term observers have recently described the nuclear non-

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[18] Regimes can be conceived as being a form of institutionalized multilateralism. However, they can be established bilaterally and can feature no physical organization overseeing implementation. The basic assumptions undergirding the concepts and phenomena of multilateralism and regimes are however similar as they both refer to shared rules and practices around which the behavior of actors converges.

[19] For the purposes of this thesis, "nuclear non-proliferation" means measures to prevent *additional* countries (those who are not legally entitled to possess nuclear weapons under the NPT) from acquiring nuclear weapons. "Nuclear disarmament" means measures to reduce the number and role of nuclear weapons among countries that already possess them, whether legally or otherwise. "Nuclear security" means measures to prevent acts of nuclear terrorism and, as such, nuclear security focuses on non-state actors and on efforts in securing nuclear and radioactive materials, as well as associated facilities.

proliferation regime as fitting the 'regime complex' terminology.[20] Notably, for how to reap the benefits of the atom without furthering the spread of nuclear weapons and materials while, at the same time, paving the way for the reduction and eventual elimination of atomic bombs is the central aim, and yet the fundamental Gordian knot, of the whole enterprise.

The focus of this study is thus put on institutional or, to use a similar term, governance effectiveness. Under conditions of regime complexity, effectiveness — that is, the capacity to which a given arrangement induces changes in actors' understanding of problem and actors' behavior, which, in turn, leads to problem mitigation — becomes a primary objective yet remains, as it will be noted in the methods section, a challenging concept to operationalize and evaluate. Empirically, this study delves into the analysis of three different cases of institutionalized multilateral nuclear non-proliferation cooperation. The first case study is represented by the 1968 NPT and its associated implementation review process in the form of quinquennial Review Conferences up to 2015. The second case is U.N. Resolution 1540, adopted by the Security Council in 2004. The third and final case is epitomized by the Nuclear Security Summits, held between 2010 and 2016.

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[20] For example, a participant in a closed-door event at the American Academy of Arts and Sciences held on 26 May 2016 in Cambridge, Antonia Chayes, converged on the notion that the NPT regime has acquired features of a regime complex.

The importance of examining the origins of effectiveness by giving analytical relevance to institutional, endogenous factors is spurred by real-world developments. Cooperative multilateral efforts in addressing nuclear dangers gradually shifted from an initial emphasis on their hardware component, that is, physical protection measures (the so-called "guns, guards and gates" approach), stemming from surveillance and early-warning systems, to cover their software component, that is, security and organizational culture.[21] Notably, the concept of security culture includes a set of "managerial, organizational and cognitive characteristics."[22] Indeed, as General Habiger, former Commander of the strategic nuclear forces of the United States, once observed, "good security is 20 percent equipment and 80 percent culture."[23] Similarly, though in a more theoretical manner, by acknowledging the concurrent explanatory power of both interests and ideas, this study brings the hardware (realist and methodologically rationalist) and the software (constructivist and methodologically reflexive) components together, so that a more nuanced hologram of the subject can be gained.

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[21] As a matter of illustration, the Convention on the Physical Protection of Nuclear Materials entered into force in 1980. Nuclear security culture is still in its infancy and the first multilateral endeavors date back to the beginning of the 21st century, actually in September 2001 when the IAEA decided that: "priority should be given to security culture." (IAEA Nuclear Security Series No. 7, Nuclear Security Culture: 1).

[22] Schein, *Organizational Culture and Leadership*, 2004.

[23] Bunn, *Securing the Bomb 2010. Securing All Nuclear Materials in Four Years*, 2010, xiii.

While it is appealing to seek endogenously given causes of regime effectiveness, for they could be intentionally manipulated by actors, the history of non-proliferation has mostly revolved around exogenous phenomena that, by definition, defy conscious human control. Major developments across the nuclear domain and major innovations in non-proliferation regimes occurred in response to attention-riveting crises and unpredictable events. However, the challenge that this study takes on is to explore ways in which change can be endangered without the occurrence of exogenous factors. In other words, can implementation monitoring architectures replace crises as motor for improvement?

Are regimes favoring the powerful at the expense of the weak, as per Neorealism? Are they rational responses leading to cost-effective, efficient solutions for mutually profitable gains, as per Neoliberalism in its institutionalist form? Are they the expression of ideas and cognitive structures of meaning espoused by political leaders, diplomats and other professional groups, as per Constructivism? Clearly, answers to these questions differ substantially according to the theoretical and methodological approach one follows. A note of caution is, therefore, in order. Providing a hologram of the subject by seeking to be as eclectic as possible might be operationally desirable, but theoretically (and

methodologically) untenable. Indeed, this is not to say that one can arrive at a full-fledged synthesis of realist, neoliberal and constructivist approaches to regime effectiveness. Their respective ontologies and epistemologies, as well as their methodological approaches to questions of cooperation differ fundamentally. However, it should be recognized at the outset that hard-power considerations, interests' configurations, as well as ideational and communicative patterns generally affect the way in which cooperation is organized and, ultimately, whether regimes are more or less effective. Therefore, the relative and aggregate relevance of each of these three single-factor accounts and propositions (power-based, interests-based and ideas-based) is a matter for empirical testing to dissect.

1.2 Core concepts and definitions

This section introduces the concepts of international regime, implementation and effectiveness, and touches on their contested definitions. Needlessly, a number of other important social science concepts are dealt with throughout the chapters. However, these three core concepts form the building blocks for the development of the analysis. Thereafter, the rationale behind the

selection of each of these concepts is provided and pondered against alternative conceptualizations.

International Regimes

In their simplest form, international regimes are modes of international multilateral cooperation.[24] To begin with, the concept of, and ensuing scholarship on, regimes can offer a useful perspective into the problem of long-term inter-state cooperation in security matters. The concept was developed during the 1970s and early 1980s by IR scholars to understand and explain puzzles about cooperation between states, specifically those relating to the origins and the underlying conditions governing institutionalized cooperation writ large.

Other fields of social inquiry, however, have been concerned with the subject matter and with the regime concept in particular. In this regard, international law specialists have had and continue to have a bearing on the understandings of this phenomenon. Needless to say, rules, norms and institutions, including physical organizations, have been longstanding subjects of legal inquiry.[25] In

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[24] Regimes are the inter-national version of domestic political and social institutions. Regimes can also exist between two states as well.

[25] Chayes and Chayes, *The New Sovereignty*, 1995. In this study, Chayes and Chayes argue, among other things, that there is a shift going on in the approach to treaty compliance away from an enforcement, coercion-based to a managerial, dialogue-based model. Rather than a focus on compliance, this study focuses on implementation of political and legal commitments and, as such, a managerial approach to implementation à la Chayes is emphasized. For the desirability to look beyond disciplinary boundaries

other words, it can be put forth that international regimes are to political scientists what international law is to legal scholars. Interestingly, this latter strand of literature has contributed to the recent renaissance of regime-related research themes, including regime complexity, that lie at the intersection between the two disciplines.

Right at the outset, it is important to set the concept against different levels of abstraction. As Oran Young, one of the most prolific and leading scholars within the international regime research program, has noted, regimes should be understood as standing in between broad political "orders" governing large swathes of individuals and states, and operating in a large number of issues, on the one side, and narrow "organizations" or agencies possessing physical and measureable attributes, and having a specific functional scope or geographical reach, on the other side.[26] Examples of the former may be such political orders as democracy and the rule of law. Examples of the latter may be such organizations as the International Atomic Energy Agency. Scholarly studies that focus on nuclear non-proliferation have analyzed "nuclear orders," "nuclear non-proliferation organizations," as well as the operations of the whole "nuclear non-

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when considering issues of cooperation, Burley, "International Law and International Relations Theory," *American Journal of International Law* 87(2), 1993.

[26] Young, *International Cooperation: Building Regimes for Natural Resources and the Environment*, 1989, 12-4.

proliferation regime."[27] Such conceptual digression is important because regime analysis, as opposed to a focus on specific international organizations, concerns itself by definition with norms and rules.

The first usage of the term appeared in a 1975 article written by Ruggie and published as special issue in *International Organization* titled "International Responses to Technology." According to what will become known as an important figure in jumpstarting Constructivism, regimes are sets of "mutual expectations, rules and regulations, plans, organizational energies and financial commitments, which have been accepted by a group of states.[28] This is the first traceable definition of international regime. However, it is not the most widely used. The starting point is Krasner's 1982 definition of regimes as "sets of implicit or explicit principles, norms, rules, and decision–making procedures around which actors' expectations converge in a given area of international relations."[29] To be sure, this definition was reached by consensus among a methodologically diverse group of scholars. Again, it was the journal *International*

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[27] For a snapshot of research on the topic, Boulden et al., *The United Nations and Nuclear Orders*, 2009. See also, Commission of Eminent Persons. "Reinforcing the Global Nuclear Order for Peace and Prosperity," 2008. On non-proliferation organizations as key components of the broader global nuclear governance, Findlay, "Unleashing the Nuclear Watchdog," *Centre for International Governance Innovation*, 2012. For studies on the non-proliferation regime, see for example, Miller, "Nuclear Collisions: Discord, Reform & the Nuclear Non-Proliferation Regime", 2012.

[28] Ruggie, "International Responses to Technology: Concepts and Trends," *International Organization* 29(3): 570, 1975. See also, Finnemore and Goldstein, "Power Politics in the Contemporary World" in Finnemore and Goldstein, *Back to Basics: State Power in a Contemporary,* 2013, 18-27.

[29] Krasner, "Structural Causes and Regime Consequences," *International Organization* 36(2): 186. Notably, the reference to the 'convergence of expectations' has been stressed by Young (1980).

Organization that dedicated a special issue to the project on regimes, to be then published as a book a year later. Framed in this general way, international regimes are ubiquitous. However, over the course of the 1980s, attempts at narrowing down the definition and at clarifying the 1982 consensus definition were made. In essence, three camps, closely associated with the main 'isms' in IR theory, can be identified, that is, liberal institutionalism, social constructivism and neorealism, respectively.[30]

First is Keohane, one of the most prominent representatives of the neo-liberalism school in its institutional variant, who has argued that regimes are "institutions with explicit rules, agreed upon by governments, that pertain to particular sets of issues in international relations."[31] Seen under this perspective, the regulatory nature of regimes is highlighted. Therefore, the sets of rules agreed upon by governments, usually in the form of binding treaties, are the motor of action and human conduct. As such, the regulatory

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[30] In the 1982 International Organization special issue on regimes, three perspectives are distinguished. The "structural" perspective sees regimes as irrelevant since they do not have any impact between basic causal variables, such as power or interests, and related behavior and outcomes. This view is associated with neo-realists. The second perspective is called "modified structural", and sees international regimes as having an impact under certain restrictive circumstances, such as when common interests and when positive-sum agreements can be realized. The third is called "Grotian" and sees regimes arising out of the social environment, thereby representing crystallized norms, rules and principles. As such, regimes have a bigger role in shaping behavior and outcomes than the previous two dimensions. Indeed, regimes, behavior and outcome cannot be analytically isolated (Kranser 1982: 189-194).

[31] Keohane, "Neoliberal Institutionalism," in *International Institutions and State Power*, 4.

conceptualization advanced by Keohane's started to bring the disciplines of IR and IL closer together.

Secondly, and conversely, Kratochwil and Ruggie, two prominent exponents of what later would become known as Constructivism, have focused their attention to the latter part of the 1982 definition by highlighting the convergent nature of expectations and by pointing to the inter-subjective origins of international regimes.[32] Seen under this perspective, mutual and shared understandings as well as the existence of a common value set or belief system are seen as the motor of human action. These observations opened the door for taking into account less positivist and rational (that is, cognitivist or softly constructivist)[33] methodological approaches to the study of the vicissitudes of regimes.[34]

Thirdly, a decade after the 1982 definition, Krasner distanced himself from the consensus view to argue that neither of the two visions are correct. For realists, including Krasner, the "principles, norms, rules, and decision-making procedures around which actors' expectations converge" are simply the product of the preferences of the powerful. Given multiple equilibriums along the Pareto frontier, it is the relative bargaining

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[32] See, Kratochwil and Ruggie,"International Organization: A State of the Art on an Art of the State," *International Organization* 40(4): 753-775.

[33] 'Hard' constructivism refers to the view that reality is socially constructed and that there is no such thing as perfect, full rationality in the actors' behavior. 'Soft' constructivism or cognitive approaches aim to explore the limits of rationality.

[34] Haas, "Why Collaborate? Issue Linkage and International Regimes," *World Politics* 32: 357-405.

power of states, more than any other characteristic, which determines where cooperation takes place.[35]

Theoretically, it seems at first glance naive to pit these grand theories against each other, as each paradigm has both a distinct set of ontological assumptions and epistemological passports. Different understandings of regimes inevitably lead to different research and evaluation strategies leading to different conclusions. While for neo-realists and neoliberals rational choice-based methods, including game theory, are better equipped to account for instances of cooperation, social constructivists follow interpretive methods to account for the causes and consequences of cooperative arrangements. However, scope for careful and meaningful elaboration between the three paradigms exists and will be explored in the next chapter. In the real-world, things look quite different. Agreements are struck, foreign policy decisions are made and negotiations are conducted in a manner in which both material and non-material, ideational and psychological factors play a role. Inasmuch as relative capabilities matter in international relations, so does the communicative and interactive aspect thereof, especially so when dealing with nuclear weapons and proliferation issues. This might be even truer in today's

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[35] Krasner, "Global Communications and National Power," *World Politics* 43(3): 336-366. Citation on page 360.

context, characterized by high levels of interconnectivity and by the 24/7/365 news cycle. The two aspects cannot be easily isolated. Realism and punishments, on the one hand, and idealism and rewards, on the other, are two sides of the same coin.

While this study recognizes the importance of cognitive dynamics and interaction-based processes to understand and explain dynamics of institutional efficacy, it nonetheless takes state-centrism and power seriously. States and government actors are the salient players that make, implement, comply with, enforce and eventually break governance arrangements. This is perhaps the main reason why other important theoretical approaches to, and concepts of, multilateral cooperation, including the more sociologically bent global governance, are considered at the margins. In a nutshell, should instances of institutional effectiveness and innovation come up in the analysis, it is advanced that these are state-led or that, at a minimum, states and governmental actors do not oppose novel solutions to non-proliferation impasses.

The emphasis on states as the fundamental, yet not exclusive, actor is appropriate for the analysis of nuclear non-proliferation regimes and, at the same time, does not prevent consideration of other stakeholders. Other reasons for taking a state-centric perspective stand out. States are not only salient as implementers, but also

and most importantly are the key players in the establishment of regimes and agreements in the first place. The formation or establishment phase is important because it is there where norms, rules and decision-making procedures are devised in the first place. In addition, the formation process usually takes place within processes of diplomatic negotiations. Hence, state-centric approaches are preferable and yet do not exclude a focus on agency, nor on interaction and cognition. The allure of the concept is that it provides a platform of ideas into which different scholars can delve. A final observation is on the fact that regimes are issue-specific, thus seeking to solve a given problem set. This latter observation gives the analysis a sharper focus.

In essence, state-centrism, state-led negotiations and issue-specificity call for the analytical usefulness of sticking to the regime concept. Ultimately, the global governance concept and the ensuing literature as a way to look at contemporary world politics, especially in the area of nuclear (non)-proliferation, is in its infancy and shrouded by analytical and normative opacity.[36]

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[36] Finkelstein, "What is Global Governance?" *Global Governance* 1(3): 367-372. For counterarguments, Pattberg, "Global Governance: Reconstructing a Contested Social Science Concept," *GARNET Working Paper*, 2006; see also Weiss and Wilkinson, "Global Governance to the Rescue," *Global Governance* 20 (2014), 19-36.

Implementation

The concepts of implementation and effectiveness are strictly interlinked. Implementation is a process through which governance arrangements operate and agreements are put into practice. Implementation is focused on those "norms, rules and decision-making procedures" that make up a regime. As such, regimes cannot be truly implemented. They encompass the wider institutional arrangement. Regimes need to be dissected into their different elements and understood as a set of specific working agreements. Only then it is possible to assess performance.

Implementation is conceptualized as those sets of processes and activities, which are devised to monitor, assess, verify or review undertakings and cope with cases of poor performance or outright non-compliance. Ideally, these processes and activities connect states, non-state actors, such as the private sector and international organizations, and together form a working system. Another distinctive feature is that these are iterated, open-ended processes feeding into each other. The phase of implementation in international regime dynamics is an under-researched but developing topic across the non-proliferation regime literature.

Studies taking the role of implementation as important variable affecting the working system of a

multilateral non-proliferation arrangement are scarce
within the field of IR.[37] Three plausible reasons can be
advanced for this neglect. First, this can be related to
the static approach to capture single big, historic
events, once at a time. This is not to say that the
mainstream paradigms have not been concerned with shifts
in behavior and interaction among parties. It is quite the
contrary. However, as a proponent of evolutionary
international relations puts it, processes are presented
as "merely the differential outcome between particular
moments in time, thus essentially 'freezing' change within
a static framework."[38] Second, implementation is a process
that requires the action of domestic, national actors, as
it takes place within the domestic structure and operating
system of each state. This is also why there is a paucity
of studies conducted with a specific focus on the
international level.

To explicitly focus on international-level
implementation, then, is to look at the supporting
architecture or framework that is supposed to lead to the
mitigation of a problem set or, in the same manner, of a
security threat. Finally, implementation is sometimes

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[37] There are notable exceptions. Besides empirical analyses conducted by policy practitioners and independent research groups pertaining to implementation challenges facing given non-proliferation organizations, academics have not devoted equal attention to questions of management and implementation frameworks. However, implementation-centered hypotheses and accounts to explain effectiveness of a collaborative project, specifically with regard to "nuclear weapons project implementation" at the domestic level, have been recently explored by Hymans (2012, 25).

[38] See, Dietl, "Selection, Security and Evolutionary International Relations." In Sagarin and Taylor, *Natural Security: A Darwinian Approach to a Dangerous World*.

addressed indirectly by ways of referring to other
concepts, such as compliance. This is a concept that has
been mostly elaborated by legal scholars.[39] Yet, while
implementation is a process that may lead concerned actors
to act in accordance with given rules, compliance is a
fait accompli. In other words, whereas implementation is
dynamic, compliance is static. In this regard, a rather
useful hologram to capture implementation at the
international level is the "system for implementation
review" elaborated by David Victor and, among others,
Raustiala.[40] Such a system stresses the dynamic nature of
the enterprise. A "system for implementation review" has
been defined as a set of "rules and procedures by which
the parties to international agreements exchange data,
share information on implementation, monitor activities,
assess the adequacy of existing commitments, and handle
problems of poor implementation."[41] As such, this thesis
adopts the view according to which the degree of
effectiveness is assumed to depend on the ways in which
such implementation and post-implementation frameworks are
designed on paper and worked out in practice. This is one
of the reasons behind the focus on the implementation
concept, rather than on (non)-compliance.

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[39] See, Chayes and Chayes, "On Compliance." *International Organization* 47(2): 175-205.
[40] See, Victor et al., *The Implementation and Effectiveness of International Environmental Commitments*, 1998. Notably, Victor and Raustiala have long studied regimes and problems of cooperation and are the first scholars to coin the term "regime complexity." See, Raustiala and Victor, "The Regime Complex for Plant Genetic Resources," *International Organization* 58(2): 277-309.
[41] Victor et al. 1998, 16.

Effectiveness

This study adopts a common-sense definition of effectiveness, by which it is meant the extent to which regimes further the goal for which they were initially established. This is the standard definition that has been mostly utilized within the regime research agenda.[42] Different taxonomies exist to conceptualize regime effectiveness. Though effectiveness is synonym with efficacy, it should not be conflated with the term efficiency. This latter term is concerned with economic impact, cost-benefit analyses. However, this study does not tackle cost-efficiency. For the benefits of a regime exceeding the costs or achieving problem solving or risk mitigation capacity at the lowest possible expense is not the main concern.

Apart from economic approaches to effectiveness, there are, of course, legal understandings thereof, including the notion that an international regime or an agreement is effective if it has entered into force and is legally binding among the parties. As a general rule of thumb, if and when a rule is legally binding, then

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[42] Keohane et al., "The Effectiveness of International Environmental Institutions." In *Institutions for the Earth,* Edited Haas et al., 1993, 3-27. See also, Young, "The Effectiveness of International Institutions," in Rosenau and Czempiel. *Governance Without Government*. See also, Young, "Effectiveness of International Environmental Regimes: Existing Knowledge, Cutting-Edge Themes, and Research Strategies." *Proceedings of the National Academy of Sciences of the United States of America* 108(50): 19853-19860.

sanctions and punishments for the breaker can be foreseen. A fitting example of why this study does not deal with this formal conception is the following. Even if the CTBT has not entered into force for the lack of a few key ratifications, still practice runs counter to a strictly legal interpretation of effectiveness. The treaty and its international organization, that is, the CTBTO and its supporting network are in fact in operation and can reasonably monitor and verify whether a rule or a process has been violated. As such, the CTBT is ineffective de jure, but to some extent effective de facto, with some fundamental spillover CTBTO-led technological applications.[43]

A third approach is the normative one, which links effectiveness with notions of legitimacy, fairness, equity and justice.[44] In this regard, however, the daunting challenge is to come up with measures that are comparable across a number of cases. In addition, the more all-encompassing the approach taken, the more difficult will be its operationalization and empirical validity across cases. Contrary to economic, legal and normative approaches to effectiveness, this study aims to continue the tradition of applying a problem solving or, equally, a proliferation risk mitigation approach. What distinguishes

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[43] See, Cede, "Enhance the Legal Status of the CTBTO Pending the Treaty Entry into Force," in Melamud et al. *Banning the Bang or The Bomb?* 227-32.
[44] See, Young (2011).

this study from other analyses is that effectiveness is so conceptualized as to stress its evolving nature.

1.3 Case selection, methods and sources

To uncover potential causes of institutional (in)-effectiveness, two regime dynamics are analyzed. Informed by cooperation theories and regime approaches, thanks to which variables and single-factor explanatory accounts can be specified, the pathways and mechanisms by which negotiated agreements (establishment) are turned into deeds (implementation) via monitoring and review procedures are analyzed. Detecting the impact of a given arrangement within a number of similar ones under conditions of regime complexity is a daunting task to accomplish in the first place and partly explains the paucity of studies in international (nuclear non-proliferation) regime effectiveness. What is more, information gathering on measurable, objective performance indicators, which is in and of itself difficult to come to, is scarce due to the sensitivity of the topic. As such, subjective, analytical and qualitative assessments by informed observers may well complement popular quantitative, numerical data, such as the number of members in a given cooperative arrangements, the number

and geographical location of countries hosting given events and associated participants.

Two methodological remarks, followed by observations on case choice, sources and use of evidence, are in order. This investigation starts with two basic claims regarding the degree of efficacy of multilateral nuclear non-proliferation governance arrangements. First, solid cognitive foundations seeking to undergird or reinforce actors' expectations are fundamental.[45] Second, frameworks for implementation do provide the environment whereby the first claim can be continuously checked. In other words, properly designed and implemented process-based frameworks are tools to investigate whether convergence takes place. The two claims invite different approaches and create distinct methodological problems.

As regards the first, several considerations need to be made. The application of a cognitive approach to understand the behavior of actors in the analysis of regimes involves considerable challenges but can also yield interesting insights. The basic problem in need of a viable solution is how to interpret and decode cognitive processes from language, whether this comes in the form of oral accounts through information gathered through expert interviews or in the form of written statements and reports. In other words, how can the investigator be

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[45] To be sure, this does not mean that common understandings cannot change, but that they provide momentum toward problem mitigation.

confident that what his interviewee means is what he says, and what he says is what he actually means? In this regard, careful attention needs to be put on the framing of questions to be asked, as well as on learning as much as possible about the interlocutor's background.[46]

In order to uncover cognitive patterns, interviewing a few selected decision-makers is a well-suited method. However, information gathered through interviews has implications on source availability and validity. A veil of confidentiality, especially during negotiations, usually surrounds multilateral diplomacy and key aspects thereof. However, a cognitive approach is appropriate for two important reasons. First, it is a suitable technique when there is the opportunity to interview negotiators and political orchestrators in order to uncover simplifying heuristics and the way they have been used. This is presently the only possibility given that archival material or published sources are scarce, especially when it comes to the case of the Nuclear Security Summits. Second, a number of scholars advance that such an approach is preferable under conditions of "strategic uncertainty," in which solutions to complex issues cannot be known in advance and when issues may call for different solutions.[47]

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[46] See, Rathbun, "Interviewing and qualitative field methods: Pragmatism and practicalities," *Oxford Handbook of Political Methodology*, Box-Steffensmeier et al., 2008, 685-701.

[47] Across IR, see Holsti, "Foreign Policy Formation Viewed Cognitively," *Structure of Decision*, 1976, 18-54; Jervis, *Perceptions and Misperceptions in International Politics*. 1976. In the field of negotiations, see Zartman and Berman, *The Practical Negotiator*, 1982. See also, Kahnemann et al. *Judgment Under Uncertainty: Heuristics and Biases*, 1982, 3-22.

This is arguably the case in the issue area of nuclear non-proliferation where the three regime pillars of non-proliferation, disarmament and the peaceful nuclear energy applications seem to invite complexity, compromise and apparent inconsistency. It is worth noting that increasing trends in institutional and informational diffusion, something which the magazine *The Economist* once labeled 'data deluge', may well beget individuals and groups to rely more and more on straightforward and simplifying heuristics.

As regards the second claim, the mutually reinforcing methods of descriptive analysis and process tracing are discussed.[48] As to the former, the analysis seeks to describe how implementation is designed and how it works in practice by contrasting different cooperative instances in order to analyze the extent to which the process has any bearing on the behavior of actors, and thus on problem solving effectiveness. As to the latter, the research disaggregates the chain of events forming the implementation framework and traces the trails between single events that constitute the unfolding of the story of causal or (not so causal) mechanisms and sequences.[49]

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[48] However, the methods of semi-structured interviewing, descriptive analysis and process tracing are not mutually exclusive, but they reinforce each other. In this regard, see Tansey (2007), "Process tracing and elite interviewing: A case for non-probability sampling." *PS: Political Science and Politics* 40(4): 765-772.

[49] See, Bennett and Checkel. *Process Tracing: From Metaphor to Analytic Tool*, 2015, 74-97 and 237-259. See also, George and Bennett. *Case Studies and Theory Development in the Social Sciences*. Belfer Center for Science and International Affairs, 2004.

As Mearsheimer and Walt have noted, process tracing seeks to prove or disprove whether a given theory's causal mechanisms are actually reflected in the empirical case studies.[50] An application of process tracing to this study would be the following. If implementation and its review lead to a change in actors' preferences or behavior because of learning-, compliance-inducing factors such as monitoring or review mechanisms, then it should be possible to garner sufficient evidentiary proof to ascertain whether that corresponds to reality.

The two central claims that this thesis advances are tested in three case studies. These cases fall within the same issue area — that is, nuclear non-proliferation. The first relates to the NPT and its associated institution of the implementation review process, as it is widely considered the epitome of traditional state-centric attempts in dealing with the basic nuclear dilemma — getting nuclear energy without proliferation risks while paving the way for disarmament. A review of Treaty Review Conferences may reveal interesting insights into whether and how linkages between the three fundamental pillars of the regime have been made and the manner in which NPT implementation has been worked out.

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[50] Mearsheimer and Walt, "Leaving theory behind," *European Journal of International Relations* 19: 427-457.

However, this case study is not about the so-called NPT regime as a whole. Rather, it focuses on the specifics related to the text of the NPT and its associated stocktaking review exercises. In so doing, an exploration into whether and how this first historical instance of nuclear non-proliferation governance has achieved its ambitious mandate becomes possible. The second case study deals with U.N. Security Council Resolution 1540, which was adopted in 2004 following Chapter VII powers as mandated by the U.N. Charter in order to cope with the emergent nexus between non-state security threats and nuclear weapons and materials proliferation. Its evolution is just as intriguing as its implementation review process. Security Council Resolution 1540, which is now more than a simple Resolution, is treated as a governance system on its own standing. The last case study deals with a third and still different nuclear non-proliferation arrangement, that is, the Nuclear Security Summits and their processes held between 2010 and 2016.

Notwithstanding important differences between the cases in institutional design, problem area, standard operating procedures and context, all of which has to be addressed in the empirical sections, these three types of organized cooperation arguably serve the purpose of furthering the regime's goals, that is, halting the spread of nuclear weapons to additional state and non-state

actors, reducing the quantitative number and qualitative role of nuclear weapons on the way to complete nuclear disarmament and facilitating peaceful cooperation on nuclear energy matters. Further, these arrangements are worth analyzing for the search of generalizable insights on regulatory, decisional and organizational aspects of non-proliferation architectures. What makes these cases interesting to diagnose is exactly their sheer diversity. In addition, the successes (and failures) of one given arrangement affects the other in ways that are mutually dependent.

In terms of their relative effectiveness in problem-solving or risk mitigation, one could certainly argue that progress is easier to make with regard to less comprehensive, narrower and technical policy areas, such as nuclear security and non-state proliferation dangers, while it is harder to achieve in more politicized fields, such as state-led proliferation, disarmament or safeguards. However, this is not a foregone conclusion, as issues of sovereignty, secrecy and national security equally pervade joint efforts to stem non-state proliferation risks.

The study draws on two bodies of literature. The first strand stems from the analysis of international regimes. A focus will be put on teasing out core features related to effectiveness. This literature is useful

because it depicts a wealth of explanatory pathways through which multilateral cooperative arrangements succeed or fail. Though the arguments employed in this analysis also draw upon work that is not strictly related to regime analysis or, for that matter, to the field of IR, the discussion is placed within the broader pan-academic debate about arrangements. Processes of regulation, organization and decision are isolated. At the same time, it is important to note that the literature on regimes is not the sole realm of IR scholars. Legal scholars have used the regime term before and have contributed to a renaissance in the study of regime complexity. A second strand of literature, sometimes called grey literature, is drawn upon in order to gather additional empirical evidence. These works include published books, journal articles, newspapers accounts, conference records and proceedings, reports, documents and guidelines from both governmental and non-governmental organizations, as well as publications from non-advocacy organizations that have participated in the design and implementation of nuclear non-proliferation regimes. In addition, these two literatures are supplemented by semi-structured interviews with individuals who have been involved in relevant negotiations dealing with the case studies under analysis. Interview data form and inform the empirical investigation of the two cases of the Nuclear

Security Summit process and the 1540 arrangement. Although no formal survey technique was planned, the fieldwork provides evidence that complements (by confirming or disconfirming) the information gathered from written and publicly available materials. In this way, a variety of sources are used in the presentation of the empirical case studies.

Chapter Two

The problem of institutionalized non-proliferation cooperation

In seeking to explain why some non-proliferation arrangements sometimes contribute to successful problem solving and risk mitigation while others seem no longer 'fit for purpose' and become stagnant, this chapter takes stock of the relevant scholarship on international regimes. In doing so, the analysis situates the research questions within a given set of scholarly contributions sitting predominantly within the field of IR. It highlights the critical variables and explanatory propositions that Realism, Neoliberalism and Constructivism emphasize with respect to inter-state cooperation and non-proliferation.[51]

This chapter focuses on the theme of effectiveness by taking into account organizational, decisional and regulatory aspects of a given arrangement. This topic is

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[51] The distinction between the three 'isms' as regime theories is disputed. No consensus on definition, operationalization and research methods exists. In the 1982 regime project a basic distinction is drawn between "structural, modified structural, and Grotian perspectives" (Krasner 1982: 190). Other contributions to the research agenda adopt different angles of interpretation (Haggard and Simmons 1987; Hasenclever et al. 1997). Another project highlights "power, interest, and knowledge" as factors affecting their genesis, and sheds light into the ways in which effectiveness can be understood by analyzing the dynamics taking place between the operations of a regime and the patterns of relative power, and the patterns of (rational) self-interests (Levy et al. 1995). Notably, the neoliberal-institutional research program includes legal scholars focusing on the phenomenon of cooperation (Slaughter-Burley 1993). Whereas they take cooperation as a fact, political scientists are puzzled by the phenomenon as such.

overlooked because of the scarce real-world evidence of cooperation in security and proliferation-related issues other than within military alliances. Even across more technical and less politicized nuclear issue areas, the extent and breadth of cooperation is underdeveloped or non-existent.[52] In addition, the notion of effectiveness is one of the most used and abused concepts.[53] It has been analyzed according to different definitions and across different dimensions. Compliance, in this regard, has been a critical variable driving effectiveness, and has been assessed against judicial decisions, the decision-making process, normative criteria such as legitimacy, and against the capacity of sates to enforce rules. This study instead problematizes endogenous properties of arrangements themselves, specifically the dynamics of implementation and post-implementation review procedures, which are thought to bear on regime effectiveness.

The first building block in this study is that the evolution and interaction of tangible interests espoused by states and their governments and intangible ideas promoted by transnational networks of committed actors, including states themselves, command considerable heft in understanding and explaining variation in regime

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[52] The 'non-proliferation' definition this study employs encompasses 'vertical' and 'horizontal' proliferation. The negotiating history and the prevailing interpretation of the package of obligations contained in the 1968 NPT – quantitatively an almost universal binding treaty, but qualitatively an insufficient measure due to the presence of four states with nuclear weapons outside the treaty's purview – is as much about horizontal proliferation as is about vertical proliferation.
[53] A comprehensive study from theoretical and methodological points of view is Hagemann et al. (2013).

effectiveness. Despite lying at the core of national security, the understandings and discourses around nuclear weapons and their risks were since the 1940s by no means restricted to intergovernmental relations. Scientists, professional groups and informed sectors of civil society sought to join forces together to form coalitions, raise awareness and shape nuclear policy. Two examples, among many, stand out. First, the establishment of the Bulletin of the Atomic Scientists in 1945 and its "Doomsday Clock", which monitors how close humanity is at total destruction, should be mentioned. Second, the initiation of the Pugwash Conferences on Science and World Affairs in 1957, inspired by the Russell-Einstein Manifesto, calling on humanity to think outside the box to peacefully solve nuclear-related problems.

At a minimum, these developments testify to the need to take into account both structure and agency as well as both interests and ideas in the formation and evolution of arrangements, and the nuclear non-proliferation regime in particular. Forces other than the rough power and the interests and ideas of major states shaped this issue area. Scientists, experts and intellectuals worked together to form transnational epistemic networks that steered the debate about nuclear risks and non-

proliferation.[54] Theoretically, it is reasonable to assume that rational choice-based and cognitive choice-based arguments equally matter to explain cooperation dynamics.

It is also important to reflect over the fact that concerns raised by nuclear weapons were first addressed in the context of multilateral disarmament diplomacy within which the definition of "Weapons of Mass Destruction" as encompassing chemical, biological, radiological and nuclear weaponry, was developed.[55] At the same time, contrasting patterns between the ideas of nuclear disarmament, the interests of governments and the structures of multilateral problem-solving, have produced deadlock at best and arms races at worst. The premise is that one cannot realistically analyze the evolution of multilateral non-proliferation cooperation without considering the role of tangible interests and intangible ideas, the interplay between structure and agency, and the interaction between rational and cognitive dimensions.

The first section of this chapter extrapolates the insights that the three IR theories and narrower international regime approaches, such as hegemonic stability, functionalism and cognitivism, reveal about institutional effectiveness. It is indeed a sort of

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[54] An illustrative example is the Russell-Einstein Manifesto, which gave birth to the Pugwash movement to "seek the elimination of all WMD and discuss new scientific and technological developments that may bring more instability and heighten the risk of conflicts."

[55] U.N. General Assembly Resolution 1(I), January 24, 1946. For a historical analysis of WMD, see Carus (2012). The proposals for several cooperative non-proliferation arrangements have been filtered through the U.N., especially the General Assembly and the Security Council.

exploratory operation because regime approaches and empirical studies have to some extent omitted to problematize this theme, focusing instead on issues of regime formation, compliance and enforcement. Less attention has been put on questions related to institutional effectiveness, and even less on possible internal sources and mechanisms of regime effectiveness. The final section operationalizes the respective variables and arguments identified so that hypotheses can be formulated and each theoretical alternative tested in the case studies.

To begin with, a terminological clarification is in order. What does 'institutionalized multilateral security cooperation' mean and why is it a problem for IR theory? To do so requires first proceeding by disaggregating the expression into its components. 'Multilateral' quantitatively defines the minimum number of participants (states and governments in the first place) involved in 'security cooperation', usually starting at three.[56] There seems to be consensus on this numerical definition. For example, both Keohane and Ruggie agree on that number as the minimum quantitative threshold for talking about multilateralism.[57] This seems to be corroborated by the

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[56] As mentioned, a qualitative dimension of the adjective 'multilateral' exists as multilateralism means more than the number of participants. The qualitative dimension can be seen as the ways in which cooperative activities are organized. It follows an ideal continuum spanning from formal to informal initiatives.

[57] Terminological and substantive agreement ends there. See, Keohane (1990), "Multilateralism: An Agenda for Research," *International Journal* 45(4): 731-64, 731; Ruggie, "Multilateralism: The Anatomy

evolution of diplomacy at the operational level. Bilateral inter-state relationships have lost relative salience, increasingly after World War II, the creation of the U.N. and the ensuing network of multilateral organizations, the dissolution of the Soviet Union and the end of the division of the world into two blocs, new globalization onslaughts and the emergence of malevolent actors.[58]

Can multilateral cooperation exist between two entities? The short answer is yes. As long as the two cooperating entities, such as states or professional groups, working on a particular problem set are assisted, supported or otherwise monitored by a third entity, we are able to speak of a multilateral cooperative instance. The opposite of multilateralism is unilateralism. Whereas unilateralism is the pursuit of goals through go-it-alone action and does not involve compromise, multilateralism is the pursuit of goals through concerted action and entails a good deal of compromise, usually through interactions and negotiations.

The term 'security cooperation' can be defined as repeated exercises on the part of the participants to work together to mitigate a common risk. Accordingly, security cooperation is not to be judged statically. Security

of an Institution," *International Organization* 46(3): 561-98, 1992; and Ikenberry, "Is American Multilateralism in Decline?" *Perspectives on Politics* 1(3): 533-50, 2003.
[58] See, Laqueur, *The New Terrorism,* 2000; Romano, "Diplomazia," 1992; Di Nolfo, *Storia della Relazioni Internazionali*, 2008.

cooperation means more than successfully negotiating and ratifying a treaty or complying with its terms. Cooperation and collaboration in this regard indicate ongoing activities and not a one-time, single-shot event. So conceptualized, 'security cooperation' can be conceived of as a process of adjusting means to reach an agreed-upon end. Yet, it should be pointed out that ends or common goals can also change for better or worse as a matter of practice, technology evolution and knowledge dynamics (accumulation or disintegration). In addition, even problems can be redefined and reframed accordingly. The basic point is that the nature of problems, the availability of mechanisms to address them and the constellation of interests and expectations that participants entertain in cooperative arrangements are not fixed. The question is then also about the medium through which processes of policy evolution and governance innovation occur. 'Security cooperation' ought to be disaggregated, as both uses and understandings of security and cooperation have changed. As to the former term, post-Cold War, post-9/11 meanings of what actually constitutes 'security' have expanded to cover more than military threats. Security threats do not come solely and preeminently from states' military apparatuses, nor is it just a matter left to the military to deal with.[59]

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[59] For example, the traditional military dimension of national security, with which both academics and

To illustrate this point, it is useful to draw a lesson from across the nuclear domain. As noted, the security of nuclear materials started on the premises of physical protection ("guns, guards, and gates") to gradually become embedded in a cultural security environment.[60] Further, ever since the 21st century, nuclear risks have ranked high and continue to be one of the top policy priorities of governments around the world. Focusing on this issue puts increased attention to regulatory aspects and management practices involving those nuclear components that are most vulnerable in scenarios in which terrorists or other malevolent actors are involved. However, nuclear components such as materials are to be seen as simply more than just a narrowly framed security concern. The issue of nuclear materials can be formulated along several dimensions.

Besides having a security dimension in light of non-state and cybernetic risks, nuclear materials can be understood, framed and their respective risks assessed as an energy issue (source of electricity), as an economic issue (demand and supply, commercial trade), as an environmental and public health issue (radiation, use and

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decision-makers have been concerned, has been "overshadowed" by such phenomena as the rise of non-state actors as important enablers, but also disablers, of security threats, rapid scientific and technological developments, and multi-polarity (Caves and Carus 2014). The literature has elaborated complementary conceptions of security, including human, environmental, water, food security, thereby highlighting different sources of conflict than those emanating from state-led militaries (Cavelty and Mauer 2010).

[60] Whereas a binding treaty on the physical protection of nuclear materials is in force since 1987, as well as a 2005 Amendment, no binding regulation exists at to nuclear security culture. However, this issue has recently received widespread high-level support.

weapon detonation), as a development issue (peaceful applications in agriculture, medicine and so on), as a scientific one (space missions), as well as a moral and ethical concern (humanitarian consequences of nuclear weapons use). 'Complexity' carries the idea of divergence, leading inevitably to discord.[61] One has to bear in mind these diverging and converging dimensions as well. As such, the complexity of the issue area under consideration and the many dimensions it can acquire makes an ideal international nuclear security regime, as traditionally understood, so elusive to build.[62]

The term 'cooperation' has also experienced a terminological reassessment or, to put it better, a deepening of its understanding, both in theory and practice. Building upon the game-theoretically-oriented contribution by Stein to the 1982 regime project, cooperation can be differentiated between the two qualitatively different situations of "collaboration" and "coordination."[63] The former case resembles a simple binary choice between outright defection and outright cooperation (game-theoretically represented as Prisoners' Dilemma scenarios, while practically represented by the creation

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[61] On the complexities of nuclear negotiations, see Avenhaus, et al. *Containing the Atom*, 2002.

[62] As noted, there are currently no binding laws, even though a model Nuclear Security Convention has been proposed. The absence of legal formality however does not impede progress. For example, efforts to streamline nuclear operations and strengthen safety and security are underway. Some working-level relationships engaging nuclear industry (operators, managers, and owners), police and private security firms, as well as policymakers have been established.

[63] Stein, "Coordination and Collaboration: Regimes in an Anarchic World," *International Organization* 36(2): 299-324, 1982. Similarly, other game-theoretical contributions exist that address the dynamics of the interests of the actors engaged in interactive decision-making processes. See Martin (1992).

of the building blocks of an international regime, such as multilateral treaties).[64] The latter approximates to a situation in which players agree to a common project (or have already done so) but disagree over the means to carry out the project (game-theoretically represented as Battle of the Sexes scenarios, while practically represented by implementation dynamics).[65] Following Stein's insights, it is suggested that the structure of cooperation in non-proliferation has moved from a type of single-shot collaboration (for example, the signing/ratification of treaties) to a type of ongoing coordinated sets of activities (for example, implementation of first-and second-order agreements).

The fourth aspect relates to the issue of 'institutionalization'. Regimes are routinized and patterned instances of the broader phenomenon of inter-state cooperation. Different regimes and different lower-level cooperative arrangements within them espouse different degrees of institutionalization. Institutional aspects are not to be conflated with organizational aspects. While the former deals with types of rules and policy-making procedures — for example, the presence or

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[64] The Prisoner's Dilemma refers to a situation in which two players each have two options whose outcome depends on the choice made by the other. In nuclear arms control and disarmament, the absence of effective verification and monitoring through which parties can minimize free-riding while maximizing trust is taken to bear on explanations of the arms races from the late 1940s through the 1980s. While the most congenial outcome from a collective perspective would have been to reduce tensions by mutually disarming, the absence of trust explains the rational decisions to increase the number of nuclear weapons (Hopmann 1996: 73-5).

[65] In non-zero-sum games, both sides want to cooperate but each has slightly different preferences, so they still have to coordinate on which activity they choose.

absence of binding provisions, scheduled meetings of the participants, routinized reviews and other monitoring practices, the presence, function and steering power of experts — the latter focuses on a related, yet separate, feature that deals with the presence, form and function of administrative and bureaucratic structures. What is more, institutionalization can sometimes constitute a stumbling block to effectiveness and adaptation to changing circumstances. When something gets institutionalized, it can mean that that something has become repetitive to the point of remaining unchangeable. Relatedly, the preeminent regime actors, such as political leaders, diplomats, lawyers and the military, tend to follow their routines by the letter and stick to their own conventions. Public organizations as such are the least flexible and the most change-averse professional groups. However, even these actors and their organizations can surely be prone to change, provided that proper mechanisms are used. Inertia and complacency may well be mitigated through interactive and iterative procedures that institutionalize multi-source information and ensure a two-way, bottom-up and top-down flow. Be as it may, a survey of the IR scholarships on the meanings and dynamics of institutionalized multilateral security cooperation is next.

Pathways to regime effectiveness: the propulsive role of relative power, common interests and knowledge

An enduring debate in IR theory revolves around the extent to which anarchy can be tamed, the role played by institutions and physical organizations, and whether and how arrangements affect state behavior.

According to Realism, and particularly neo-realists or structural realists, three mechanisms exist through which states can accommodate their differences with one another. Unsurprisingly, none of them refers to international regimes and narrower international organizations. These are self-help, (military) alliances and the balance of power. Self-help is by definition a unilateral response and is the opposite of concerted action. Alliances are agreements among like-minded states in which parties jointly define threats and agree to counter them accordingly.[66] The balance of power is a process according to which states counter threats that are likely to override the status quo.[67] No matter the mechanism and the issue at stake, cooperation is viewed as a zero-sum game, in which gains acquired by one party translate into losses by the other party. This is the inescapable result of the security dilemma in an anarchic

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[66] Waltz, *Theory of International Politics*, 1979; Walt, *The Origins of Alliances*, 1987; Jervis, "Cooperation under the Security Dilemma," in Betts, *Conflict After the Cold War*, 2008.
[67] Mearsheimer, *The Tragedy of Great Power Politics*, 2001.

international system of unitary states.[68] Anarchy means
that there is no such thing as an entity having a monopoly
on the use of force, nor there is such thing as an entity
having the capacity to enforce agreements. In such an
environment where states are the lone wolves in the forest
of international politics, uncertainty and mistrust reign
supreme.[69] Another basic assumption refers to the notion of
states as unitary actors and it acquires particular
significance with respect to negotiation approaches. In
essence, the preferences and the interests of states are
both exogenous to interaction, that is, unchangeable by
the iteration of contacts, and formally predictable. In
addition, unity also refers to the gate-keeping capacity
of states for the reason that no other player or actor can
reach out to or affect the formation of interests and the
processes of multilateral bargaining and decision-making.

These forces induce (rational) states to compete
rather than cooperate.[70] Whatever form of cooperative
engagement takes place, this is just a matter of time-
bound and short-term convenience and, therefore, is ad-

[68] Grieco, "Anarchy and the Limits of Cooperation" *International Organization* 42(3): 485-507; Grieco, *Cooperation Among Nations*, 1990; Jervis, "Cooperation Under the Security Dilemma," *World Politics* 30(2): 167-214. Notably, the origins of the security dilemma are situated within the realm of cognition and divergent beliefs. Security dilemma situations arise out of misunderstandings by one party vis-à-vis the other, which, in turn, reacts by resort to threat escalation. Finding a way out requires building and sustaining a framework for confidence enhancement through information sharing and transparency measures while at the same time balancing the need to share.

[69] That is why challenges related to progress monitoring and to the verification of cases of non-compliance are so important in non-proliferation. Former U.S. President Reagan once advised to 'trust but verify'. Former President Obama stated that the JCPOA is not based on trust, but on verification (see Obama's speech at American University, 5 August 2015). Former U.S. lead negotiator for the JCPOA, Wendy Sherman, reiterated that concept at a conference in October 2015 (Harvard Forum).

[70] Mearsheimer, "The False Promise of International Institutions," *International Security* 19(3): 5-49.

hoc, short-lived and based on a case-by-case basis and on a narrow calculation of incentives and disincentives. As such, the neorealist literature naturally neglects the significance of institutionalized cooperation in security matters. In a nutshell, institutionalized cooperation is seen as either insignificant or merely a function of the underlying power relations. Moreover, (military) alliances are forms of cooperation meant to exclude, rather than include, participants. Given the focus on multilateral security management arrangements, this study bypasses the literatures on alliances.

So what accounts for the sustained cooperation in post-Cold War, post-9/11 security politics? Realists hark back to the theory of hegemonic stability to explain the causes and consequences of long-term cooperation. According to the neorealist version of the hegemonic stability theory, it is the presence of, and willingness to, act on the part of the most powerful state(s) and to bear the costs of establishing and maintaining systems of managed response that explains the existence and endurance of arrangements.[71] When the most powerful loses its relative primacy, then regimes are likely to weaken and eventually fade away. As a consequence, effectiveness is then a function of the (short-termed and relatively

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[71] Krasner, "Structural Causes and Regime Consequences," *International Organization* 36(2): 185-205; Keohane, *After Hegemony,* 1984; Stein, "Coordination and Collaboration," *International Organization* 36(2): 299-324.

assessed) national interests of the hegemon. It then becomes reasonable to assume that the (in)effectiveness of regimes is thus associated with the rise and decline of the hegemon. In addition, vocalized, tangible interests are defined in terms of material power and remain fixed throughout interaction. Common interests, if any, are arguably pursued inasmuch and as long as they reflect the preferences of the hegemon. In essence, power defined according to military means and economic capabilities and the distribution thereof at the systemic level determines the success or failure of any form of multilateral cooperation. International binding law and independent international organizations are epiphenomena that arise out of the will of the powerful. These forces do not causally impact the efficacy of regimes. As a consequence, effectiveness is brought by hegemony.

Neoliberals agree with realists over the anarchical nature of the international system and the nature of human action depicted as self-interested, rational and utilitarian. Yet, power is more widespread than neo-realists depict it to be. The forces of economic and financial interdependence — or what can be called globalization — take the upper hand.[72] This strand of literature does not black-box states as unitary actors but

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[72] See, for example, Keohane's and Nye's *Power and Interdependence*. By the same authors, see "Power and Interdependence Revisited."

takes individuals and groups as the unit of analysis.[73] Whereas the realist theory takes power conceptualized at the systemic level as the variable influencing regimes, neoliberals take interests conceptualized at the unit-level of analysis as a key determinant. Individuals, national leaders and their rational choices shape the contours within which international politics develop. However, both realism and neoliberalism have their origins in a utilitarian view of the world where actors act out of rational self-interest and seek to maximize their utility. In essence, actors act as "rational egoists."[74]

As the most prominent neoliberal-institutional scholar has put it, cooperative arrangements are created and maintained through institutions (and physical organizations) that provide efficiencies of scale and minimize transaction costs by making it cheaper for actors "to get together to negotiate an agreement" and "to get incentives to reveal information and their own preferences fully to one another."[75] This theory is embedded in microeconomics somewhat following the logics of methodological individualism and rational choice.[76] Moreover, besides reducing both uncertainty and costs, as well as increasing transparency, regimes serve another

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[73] Keohane, *International Institutions and State Power*, 1989.

[74] Keohane, 1984, 27 and 110.

[75] Keohane, 1984, 90; see, "The Demand for International Regimes," *International Organization* 36: 325-55.

[76] Notably, in much the same way as the "industrial districts" studied by Marshall operate, institutions act as a catalyst for the maximization of benefits deriving, among other things, from information exchange, for the minimization of costs and the reduction of uncertainty.

important function, which is a key distinguishing feature in the realist-liberal debate. They can stabilize expectations and can alter conceptions of self-interest in the long run.[77] This observation wards off realist scenarios in which pessimistic, worst-case assumptions spur states to thinking in terms of relatively assessed gains instead of seeking common interests, thereby engendering conflict and preventing cooperation.

It is however important to note that states and governments are the gatekeepers. Regimes do not have independent power of their own. More precisely, regimes help states to advance their self-interests through cooperation and, in turn, cooperation is fostered by the presence of regimes themselves. The key driving force is to be traced to the configurations of interests that parties entertain. In order for cooperation to take place, the configuration of state interests should be neither mutually divergent (state of dissonance) nor perfectly congruent (state of harmony). It is the interaction between competitive and cooperative interests that has the potential to produce agreement; in other words, "cooperation can only takes place in situations that contain a mixture of conflicting and complementary interests."[78] This is what Schelling has referred to as

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[77] In a nutshell, this thesis wants to prove or disprove that it is in part due to the design and operation of implementation frameworks that has the potential to alter states' interests and perceptions.

[78] Axelrod and Keohane, "Achieving Cooperation under Anarchy," *World Politics* 38(1), 226.

"mixed-motive" situations in which both converging and diverging interests are present for negotiations to take place.[79] In essence, common and overlapping interests then replace hegemonic power as the driving factor.[80] As the expression configurations of interests indicate, there is theoretically an infinite number of ways in which interests can be structured and clustered together. In this regard, game-theoretical models have been developed to account for these variances.

For the purposes of this thesis, it is not necessary to illustrate the variety of formal models. Nonetheless, it should be highlighted that what really matters is the presence of disparities among parties in interests which act as the principal catalyst for regime success or failure. Disparities of interests can be adjusted through the processes of negotiation by adopting both distributive (zero-sum or value-claiming) and integrative (positive-sum or value-creating) bargaining tactics, or a mix thereof. To be sure, the reference to negotiations may be misplaced, as, apart from few notable exceptions, this parallel has not received attention by regime scholars, whether they may be falling within the neorealist or institutional camps.[81] Similarly, these theories do not explain how multilateral convergence and adjustment of

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[79] Schelling, *The Strategy of Conflict*, 1960. See also Keohane, 1984, 67-8.
[80] Keohane's book title "After Hegemony" stands to indicate that cooperation was still possible at a time when the U.S. was losing its predominant position.
[81] Young was one of the first scholars to place importance on negotiations and bargaining in regime dynamics, especially during the formation stage (Hasenclever et al. 1997; Young 1989).

interests is obtained in the process, given that one of the theoretical assumptions undergirding rational choice-based approaches (and hence, both realist and liberal) is that interests are predetermined, predictable and fixed throughout interaction. Hence, strategies and processes of negotiations gain relevance.

In addition, irreconcilable disparities of interests may produce "political market failures" for which everyone has an interest in avoiding.[82] Therefore, institutionalized multilateral cooperation is a self-interested response to problems of information scarcity and considerable transaction costs as a result of the anarchical nature of the international system. As such, regimes provide a modicum of stability in actors' expectations about others' patterns of (expected) behavior that ultimately permit the development of working relationships. Recursive negotiations, the presence of physical organizations, monitoring and verification mechanisms are established and maintained to ameliorate the tragedy of self-sufficiency.

In sum, concerns about 'relative gains' are underplayed and substituted with an emphasis on absolute gains deriving from mutually beneficial cooperation and emerging from appropriate processes of negotiation. Strategies that are geared toward the quest for 'absolute

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[82] Keohane, 1984, 85.

gains' are called 'integrative bargaining'.[83] Anarchy is still the overarching concern, though it can be mitigated by mutually beneficial cooperation in a world where increasing levels of interdependence make it more difficult to 'go it alone'. One key distinguishing factors between neorealism and neoliberal institutionalism may be found at the level of temporality. The latter paradigm disregards the reality of short-term disparities in interests to focus instead on the benefits of achieving long-term objectives, whereas the former starts with just the opposite standpoint.[84]

The third IR paradigm is social constructivism. This strand emphasizes that actors behave not only in response to their self-interested motivations, as both neo-realism and neoliberal institutionalism have it, but more importantly, according to shared values and common understandings. To be sure, shared values and common understandings come first in the causal chain of explanation and, accordingly, they enable individual interests to take shape. In explaining the causes of inter-state cooperation, scholars of international regimes started to make reference to the term cognition. The term comes from the Latin word for 'thinking' and refers to the

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[83] The integrative problem-solving approach changes the zone of possible agreement by creating a different range of options for convergence. Integrative bargaining treats interests as dynamic factors shaped by knowledge, norms and ideas (Hopmann 1996; Walton and McKersie 1965; Pruitt 2002). It is therefore associated with cognitive strategies. Walton and McKersie are credited with coining the term integrative bargaining in their 1965 *Behavioral Theory of Labor Negotiations*.

[84] Jervis (2013) refers to problems of chronology. See also Hopmann, 1995.

ways in which people make judgments and decisions, and the way in which they interpret, or misinterpret, judgments and decisions made by others.[85] Within the regime scholarship, Haggard and Simmons coined the term "cognitivism" to distinguish two versions within the constructivist school of thought, that is, "weakly' and strongly cognitivist approaches" to regimes.[86] The distinction between the two accounts is crucial and analytically important. Cognitive analysis draws analysts' attention to what is going on in the reasoning processes of decision-makers, the linkages between problems and solutions, means-to-end relations and the disparities in the perceptions of interest. Cognitive approaches engage with research in psychology and the human mind. It was only in the aftermath of the 'behavioral turn' in the study of IR in the 1960s that it began to be acknowledged that there is a psychological dimension of international relations, both in theory and in practice.[87]

In a nutshell, this strand of approaches points to the fact that what really counts is the manner in which ideas, having the potential to gain heuristic power, are framed. Cognitive approaches transpose reasoning processes, which operate at the individual level of analysis, to problems of cooperation. In doing so, they

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[85] See, the chapters by Rubin and Jönsson on cognitive theory, in Kremenyuk, *International Negotiation: Analysis, Approaches, and Issues*, 2002.

[86] Haggard and Simmons, "Theories of International Regimes." *International Organization* 41(3): 491-517.

[87] For a discussion of cognitive theory, Little and Smith, *Belief Systems and International Relations*, 1988.

argue that not only individuals, but also complex systems can learn and redefine their interests and operative practices. Even classic realists concede on this point. Psychological and cognitive factors play a role. It is to note that, for example, Morgenthau's *Politics Among Nations* states that the true nature of foreign policy decisions is "concealed by ideological justifications and rationalizations."[88] It was acknowledged that reality could be defined in radically different ways and that these contrasting definitions of reality had important consequences. Instead of describing policy decisions as irrational, it was essential to start problematizing the belief systems of decision-makers and develop a better understanding of the linkages between beliefs and behavior. In so doing, more successful policy courses could be taken and dangerous misinterpretations avoided. In "The Cybernetic Theory of Decision", Steinbruner states: "when we speak of such things as organizational process, political bargaining, and rational calculations, we tacitly know that in the final analysis the phenomena involved are based on human mental operations. He then goes on and argues that "the critical propositions of cognitive theory concern themselves with the structure of beliefs; that is, with the ways in which the relationships between beliefs are organized and with the manner in which

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[88] Morgenthau, *Politics Among Nations*, 1973, 88.

information is processed in reference to existing beliefs."[89]

Policy propositions that are heuristically framed are more likely to gain political salience and get the attention of the higher spheres of governments. Ernst Haas has been of the preeminent scholars that took into account cognitive factors in understanding and explaining the evolution of regimes by focusing on "the possibility of choice based on perception and cognition."[90] Paraphrasing one of the leading advocates of constructivism as applied to regime analysis, Peter Haas, the establishment and maintenance of effective arrangements is only likely when states share a basic appreciation of the problem at stake.[91]

Moreover, the author refers to a key assumption that is relevant to effectiveness. As he has put it, "before states can agree on whether and how to deal collectively with a specific problem, they must reach some consensus about the nature and scope of the problem and also about the manner in which the problem relates to other concerns in the same and additional issue areas."[92] If both problem-solution and issue-linkages are decoupled, then effectiveness becomes harder to achieve. Cognitivist scholars criticize realist and neoliberal accounts of

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[89] Steinbruner. *The Cybernetic Theory of Decision*, 1974, 95.
[90] Haas, "Why Collaborate?" *World Politics* 32(3): 357-405, 360.
[91] Haas, "Do Regimes Matter?" *International Organization* 43(3): 377-403; Haas, "Introduction: Epistemic Communities and International Policy Coordination," *International Organization* 46, 1-35.
[92] Haas, 1992, 29.

regime vicissitudes for disregarding the ambiguity and
multidimensionality of reality, as well as such
(intangible) cognitive factors as learning and knowledge.

Within constructivist regime theory, the distinction
between a 'weak' and a 'strong' analytical version enables
the distinction between different explanatory pathways to
institutional effectiveness. Weakly cognitivist approaches
comfortably complement rationalist approaches. Hasenclever
underlines that weakly cognitivist approaches "attempt to
fill a gap in interest-based theorizing by adding a theory
of preference formation."[93] As stated above, rationalist
approaches take interests for granted, and regard them as
immutable during multiparty interaction such as
negotiations. This line of inquiry centers instead on
understanding and explaining changes in actors' interests.
They take (expert) knowledge as the relevant single-factor
account for the assessment of interest dynamics. They
highlight the importance of mutually agreed-upon knowledge
that may be produced through different channels.[94]

Two additional points deserve consideration. First,
common knowledge, in order for it to become relevant,
needs to be contested and needs to be brought to the
attention of decision-makers so that they will redefine
the national interest in light of the new scientific and

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[93] Hasenclever et al., "Integration Theories of International Regimes," *Review of International Studies* 26(1): 3-33, 5.
[94] A catalyst for interest change is through networks of experts -- "epistemic communities" (Haas 1992).

technical knowledge. As such, one important provision of weakly cognitivist political scientists is that they still depict states, or decision-makers, as the gatekeepers. Therefore, the first take-away point is that cognitivist approaches of the 'soft' kind and state-centrism can go hand in hand. The second lesson is that knowledge building and interests change are spurred by learning — on the part of governments and political leaders in the first place — and persuasion about the salience of novel means-to-end relationships. New knowledge brought by learning is necessary for a redefinition of interests. In this regard, learning should not be interpreted as intrinsically positive, but can operate in the opposite way. For example, actors can draw right or wrong analogies from past experience.

Further, Nye distinguishes between "simple" and "complex" learning. In his words, "simple learning uses new information to adapt the means […]. The actor simply uses a different instrument to attain the same goal. Complex learning involves recognition of conflicts among means and goals […] and leads to new priorities and trade-offs."[95] Similarly, Haas and Haas use the terms "adaptation" and "learning" to refer to the two situations, respectively. In their words, "to adapt is to

[95] Nye, "Nuclear Learning and U.S.-Soviet Security Regimes." *International Organization* 41(3): 371-402, 380. As the author remarks, a pathway along which interests and preferences can change is through "learning" understood as "cognitive change" (Nye, 378).

change routines of problem solving without bothering to reexamine one's beliefs about cause and effect;" moreover, "Learning is rare. To learn is to put consensual knowledge to work defining and solving problems seen as interconnected."[96]

'Strong' cognitivists sit in the orthodox camp of constructivism in that they take norms, consensual knowledge and inter-subjectively shared expectations a step of abstraction further. This is exactly where methodologically positivist theories give way to methodologically interpretive sociological theories. In other words, 'strong' cognitivists understand norms and mutual understandings as existing prior to institutionalized cooperation and prior to states themselves. State behavior and regime outcomes are a product of mutually reinforcing ideas and understandings of the self and the other. Put briefly, regimes are as much effective as are collectively held beliefs and identities.

There are at least two differences that render this account more resistant to analytical cross-fertilization than 'weak' cognitivism or 'soft' constructivism. The first roadblock is epistemological. Positivists in both realist and liberal traditions are concerned with 'causal' relationships or at least correlations between one or more

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[96] Haas and Haas, "Learning to Learn: Improving International Governance," *Global Governance* 1(3): 255-84, 262.

factors, as well as a separation between subject and object of analysis. Constructivists, as the very term implies, are more concerned with 'constitutive' relationships between subject and object. According to Wendt, regimes and states co-constitute each other. For Wendt, "an institution is a relatively stable set or structure of identities and interests", and they are "fundamentally cognitive entities that do not exist apart from actors' ideas about how the world works."[97] Consequently, concepts such as anarchy, interests and, indeed, regimes are socially constructed. The second impediment is of ontological nature. The nature of state actors and their underlying motivations differ markedly. For 'strong' constructivists, not only are states and non-state actors equally relevant but, and more importantly, factors and dynamics related to actors, norms and ideas have equal weight. What is more, 'strong' cognitivists challenge the foundation of the rationalist mode of analysis by positing that actors cannot and should not be depicted as self-interested utility boosters, but rather as role-players.[98]

A useful heuristic for making sense of this latter difference between utility-maximizing actors versus role-players is provided by the dichotomy between the "logic of

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[97] Wendt, "Anarchy is What States Make of It" *International Organization* 46(2): 391-425, 399.
[98] Hasenclever, et al. *Theories of International Regimes*, 1997, 137.

consequence" and the "logic of appropriateness".[99] Whereas rationalists understand actors' behavior as largely determined by moves and decision-making based on cost-benefit analyses and the national interest, constructivists understand actors' behavior as largely determined by moral obligations and discourses. A third roadblock is methodological, concerning the methods and sources employed to gather evidence across real-world cases and is thus a consequence of the epistemological and ontological assumptions.[100]

Before coming up with a dynamic model linking neorealist, neoliberal and soft, or thin, constructivist approaches, it is worth briefly overviewing the most recent works on regimes.[101] The latest strand of regime analyses — those studies that no longer problematize "cooperation under anarchy" or collective action as phenomena worth analyzing — has been motivated by the outburst of agreements and organizations managing a given problem set or mitigating a given security threat. To be sure, these works may not be as groundbreaking compared to those carried out between the 1970s and the 1990s. The main reason is that recent regime-centered analyses do not depart from compartmentalized thinking and theorizing that

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[99] Hasenclever et al., 1997. See also, March and Olsen, "The Institutional Dynamics of International Political Orders," *International Organization* 52, 943-69.

[100] In comparing the three "grand theories" it is worth noting that Constructivism as applied to the regime research agenda is the least straightforward when it comes to clarity. At first glance, terms such as knowledge, learning and ideas seem to be conflated and used interchangeably.

[101] The first scholar to point to new regime-related research agendas by arguing for the usefulness to analyze regimes in association with other regimes has been Young (1996).

accompany the main (realist, institutional and cognitivist) approaches. However, such studies are important in that they point to increasingly complex coordination problems associated with regulating and managing contemporary challenges, the solutions of which will be fundamental for human survival.

The renaissance of academic interest in regime analyses is primarily concerned with the consequences, not the causes, arising from the presence of a multitude of arrangements (treaties, agreements, regulations and physical organizations) aimed to address and solve given problems. Scholars like Raustiala and Victor have coined the term "regime complex" to describe "an array of partially overlapping and non-hierarchical institutions governing a particular issue area", and instances of regime complexes have been found in numerous policy sectors, including but not limited to climate change, energy, the environment, trade and finance.[102] Most recently, instances of regime complexity have been observed in global cyber activities and Internet regulations.[103] Similarly, other scholars define "regime complexity" as situations in which there are "nested, partially overlapping, and parallel international regimes

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[102] Raustiala and Victor, 2004, 279; see also Keohane and Victor, 2011; Colgan et al., "Punctuated Equilibrium in the Energy Regime Complex," *The Review of International Organizations* 7, 117-43.
[103] Nye, "The Regime Complex for Managing Global Cyber Activities," 2014.

that are not hierarchically ordered."[104]   While first-
generation regime literatures conclude that regimes can be
established and can remain effective as long as there is
an identifiable common interest and as long as they
provide actors with opportunities to converge and reach
agreement (situations of harmony),[105] complexes of regimes
are established around the assumption that there is
interest divergence among actors because they disagree
over the means-end connections (situations of
contestation). However, whether complexes of regimes are
more or less effective than traditional ones remain
underexplored. According to the literatures reviewed, the
consequences arising from institutional overcrowding are
three. First, regime complexes can provide states with
"forum shopping" opportunities, that is, the ability to
change venues within a single regime in order to advance
their own interests.[106] Second, regime complexes can provide
states with "regime shifting" opportunities, that is, the
ability to select a forum in a different yet overlapping
regime so as to redefine a policy.[107] Third, the creation of
regime complexes provides states with more leverage
options or exist strategies when it comes to deciding

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[104] Alter and Meunier, "The Politics of International Regime Complexity," *Perspectives on Politics* 7, 13-24, 13.
[105] In this regard, it is understood that interests can emerge from considerations of power, considerations of cost-efficiency and beliefs. In other words, interests can derive from power (neo-realists), wealth (neoliberals/institutionalists) and beliefs system (cognitivists/constructivists). In practice, interests can also derive from and be influenced by a combination of these factors.
[106] Raustiala and Victor, 2004, 298-300.
[107] Morse and Keohane , "Contested Multilateralism," *The Review of International Organizations* 9(1).

which rules to follow, thereby leading to situations of "strategic inconsistency."[108]

Scholars from the rational choice-based tradition have welcomed the creation of multiple and partially overlapping arrangements. Realists conclude that regime complexes favor the most powerful states as they have more resources at their disposal and are able to select their preferred courses of action without caring too much about others' reactions.[109] Neoliberals analyze institutional overcrowding from micromanagement and microeconomic standpoints and conclude that the more competition, the better the outcome. In a way or the other, regime complexes lead to specialization and to an efficient division of labor.[110] Within this debate, constructivists have remained largely silent. Cognitivist contributions on the topic of regime complexes are rare, practically nonexistent. However, one could anticipate that the real-world rise of a multitude overlapping instruments and organizations has also responded to psychological or cognitive dissonances and lack of consensual knowledge in means-end relations, as well as problem framing ineffectiveness. Be as is may be, the devil really lurks in the details. Measuring the relative intensity of each of these three grand factors becomes problematic.

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[108] Raustiala and Victor, 2004, 298.

[109] Drezner, "The Tragedy of the Global Institutional Commons," in Finnemore, *Back to Basics*, 2012.

[110] Gehring and Faude, "A theory of emerging order within institutional complexes," *The Review of International Organizations* 9: 471-98.

Nonetheless, the challenge of combining the realist, neoliberal and constructivist angles of vision in order to provide a pragmatic hologram of the matter is worth the effort. There is a wide gap between IR theory and the extant practice.

The logic of material versus ideational factors that structures the traditional approach to studying international politics largely misses the point. This is even more relevant when it comes to assessing the performance of non-proliferation regimes, which is an inherently dynamic process, by using parsimonious, yet static, theoretical lenses. The regime term itself already encompasses both formal agreements as well as informal procedures and understandings. After all, "none of these schools of thought alone is capable of capturing all essential dimensions of regimes."[111] As it happens, a compromise needs to be worked out between the simplicity and straightforwardness of theory, on the one hand, and the complexity of the real world, on the other.

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[111] Hasenclever et al., 212.

Table 1: *The Study of Regimes across IR theories*

	Realism	*Neoliberalism*	*Cognitivism*
Central explanatory variable	Power	Interests	Knowledge
Epistemology	Rationalist, positivist	Rationalist, positivist	Sociological, reflexive
Ontological givens	State-centric, anarchic system, self-interested, coercion	State-centric, anarchic, self-interested, cooperation	Social context, norms and ideas
Level of analysis	Inter-state	Domestic level	Individual, also domestic level
Role of institutions	Non-existent or very low	Medium	High

Bridging disciplinary divides

This section starts by touching on those studies that have explored disciplinary cross-pollination in regime analysis and on those that have advanced causal mechanisms by which

conceptions of self-interest can be shaped. It then proceeds by advancing the feasibility of incorporating a different, yet complementary, explanatory framework.

Pioneering attempts to come up with a synthesis between neorealism and neo-liberal institutionalism, and subsequently, between the two methodologically rational theories, on the one side, and interpretive/constructivist studies, on the other, date back to the 1990s. Haggard and Simmons first warned about the dangers of theoretical integration by arguing that the "resolution of the debate between structuralists and cognitivists will depend on tests that allow for a confrontation between the two approaches without violating the epistemological tenets of either."[112] In their remarks on the ways ahead for regime-oriented analysis, the authors disregarded the possibility of theoretical cross-fertilization, and favored instead the development of models linking the domestic and the international levels of analysis.

In 1988, Keohane differentiated between two mutually exclusive analytical constructs, that is, rationalistic and reflective approaches to understanding institutions and, as a consequence, regimes. This thesis seeks to prove that room for synthesis between the rational and the reflexive orientations is desirable and possible as they both complement and do not detract from each other. Most

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[112] Haggard and Simmons, 1987, 513.

importantly, and building on the work of Haggard and Simmons, Hasenclever, Mayer and Rittberger in both their 1997 and 2000 publications advanced the possibility of integrating the two approaches, including the analytical feasibility of using what they termed 'weakly' cognitivist variables to supplement rationalist theories.

In this regard, 'weak' cognitivists or, by the same token, 'soft constructivists' start from the assumptions that knowledge shapes actors' behavior and expectations and that some degrees of shared understandings of problems and their solutions need to be present for regimes to continue to be valuable and worth preserving. Collective understandings of end-means linkages are at the core of the explanation. Changes in causal beliefs help to explain variation in actors' behavior and/or around a given phenomenon. Causal beliefs can influence the choice of means and objective, they can create focal points for seeking solutions and grant institutions power to prolong ideas. These assumptions do not violate explanatory tenets of both neorealist and neoliberal approaches to regime dynamics. On the contrary, they are embedded in methodological rationalism. Ideas as framed by 'weakly-oriented' cognitivists continue to respond to a rationalist "logic of consequentiality" based on an intergovernmental form of interest formation and evolution, rather than to a reflexive "logic of

appropriateness" based on roles and strategies actors other than states play and pursue.[113]

The weakly cognitivist literature has developed two causal mechanisms by which both individual and collective state interests can be shaped. There are two existing approaches to theoretical synthesis. These are the knowledge-inducing epistemic community framework and theories on learning. As for the latter, changes in beliefs occur through learning, thereby leading to the development of new strategies (simple learning) or brand-new state interests (complex learning).[114] Learning means "to alter one's beliefs as a result of new information, and to develop knowledge or skill by study or experience."[115] Learning occurs internationally when "new knowledge is used to redefine the content of the national interest. Awareness of newly understood causes of unwanted effects often results in the adoption of different means to attain one's end.[116] As to the former, knowledge may be transmitted to policy-makers and between countries through the medium of "epistemic communities," that is, networks of qualified professionals with expert knowledge relevant

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[113] The need to integrate realist and liberal approaches is reiterated by Garrett and Weingast as they argue that the dichotomous separation between "rationalists" and "reflectivists" is misleading. Shared causal beliefs act as "focal points" around which actors' behavior converge. Ideas, norms and shared expectations may influence both the ways actors select a given arrangement as well as the stability, and hence the effectiveness, of such arrangements. See, Garrett and Weingast (1993) and Garrett (1992). As far as the expressions "logic of consequences" and "logic of appropriateness" are concerned, March and Olsen coined these terms and transposed them into the IR literature. See, March and Olsen (1998).

[114] Nye (1987). See also, Keohane and Nye (1987).

[115] Keohane and Nye, "Power and Interdependence Revisited," *International Organization* 41, 749, 1987.

[116] Haas, 1980, 390.

to policy choices.[117] In this regard, knowledge can be understood as the "sum of technical information and of theories about that information which commands sufficient consensus at a given time among interested actors to serve as a guide to public policy designed to achieve some social goal."[118]

What is missing in these accounts is an explicit attempt to link the main single factor explanations of regime effectiveness into an integrated model, as well as a deeper understanding and analysis of the dynamic mechanisms by which knowledge and learning occur. As noted above, roadblocks to a full integration to the analysis of institutional effectiveness are well founded.

Attempts at analytical synthesis made so far are few and are — though empirically rich — at risk of downgrading the principle of theoretical parsimony and simplicity according to which theories are useful so long as they are able to explain as much as possible about a phenomenon with as few variables as possible. Nonetheless, issues and problems are complex, interlinked and multidimensional, as the case of nuclear non-proliferation demonstrates. Case study analysis as a research method helps accommodate complex interactions. Explaining why multilateral cooperation in nuclear non-proliferation seems effective

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[117] The "epistemic community" framework was introduced by Peter Haas to analyze the role and impact of ideas in policy coordination (1989, 1992). Ruggie also focused on epistemic communities in his 1975 article. According to him, epistemic communities create a discourse that carries out standards of "normal" behavior (see Ruggie 1975, 570).

[118] Haas, 1980, 67-8.

in some instances but not in others on the basis of single-factor accounts alone is not sufficient. As much as this thesis focuses on the forms and substance of multilateral cooperation in nuclear non-proliferation in areas in which recourse to conflict or military force is abstracted away, so too binary choices between the power of interests and the power of ideas should be allowed to interact with each other.

A pragmatic framework can thus be constructed in two steps. First, there is a need to acknowledge the full complementarity of neorealism and neo-liberal institutionalism. Second, there is a need to combine rationalist and cognitive approaches. One way of proceeding is to treat absolute and relative gains as part of the same equation. Indeed, the concomitant presence of cooperation (common interests) and competition (individual interests) is what actually brings people to the negotiating table. The literature on negotiation analysis helps in this regard, as this is what actually "mixed motive" situations mean: successful negotiations represent just that. Second, and following from the first step, interests that both the above-mentioned theories regard as exogenously given and fixed are redefined via negotiations.

Whether this can also be seen with regard to endogenous institutional properties, such as

implementation and post-implementation reviews, is the crux of this study. Negotiation strategies to increase the odds of getting to a compromise can be recast as a form or strategy to seek cognitive convergence among the parties. Since one of the main goals of negotiation is to find compromise by changing beliefs and interests in such a way as to expand the prospects for agreement, it follows that beliefs and interests cannot be regarded in practice as exogenous to interaction. The same argument should hold true not only for negotiation processes, on which most attention has been put, but also for previously neglected implementation review processes.

Framework of analysis

This section defines what this study is about and presents the phenomenon to be explained. It then proceeds to the phase of operationalization to come up with comparable features for, and indicators of, the three explanatory variables that cooperation theories and regime approaches single out as having the most impact on institutional effectiveness, that is, power, interest and knowledge. In doing so and based on an appraisal of both secondary literatures dealing with the three selected case studies as well as on an assessment of interviews, 'measuring' becomes empirically possible. Finally, this section

touches on a number of methodological questions, including the challenge of tracing causality in rather complex and long-term patterns. It also tackles some controversial points that such an examination entails, including the level-of-analysis problem and the use of elite interviews as information gathering method.[119]

This thesis explores why institutionalized cooperative relationships sometimes succeed, whereas others fail to deliver expected objectives. In doing so, it seeks plausible explanations rooted in endogenous, institutional features pertaining to the arrangement or regime under analysis. It problematizes institutional features as possibly being relevant stepping-stones or impediments to effective cooperation. In other words, can we explain variation in institutional effectiveness in terms of variation in endogenous regime properties? What sets this study apart is the approach to inquiry and diagnosis. As regards inquiry, it does not dismiss but rather seeks to embed the key single-factor propositions that regime approaches have advanced to explain the formation of cooperative initiatives in a multidimensional framework in order. This requires going back and forth across different levels of analysis and combining realist and constructivist perspectives. As regards diagnosis, this study takes a step further by considering previously

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[119] On theory testing, Van Evera (1997); on case-study research methods and within-case methods like process tracing, George and Bennett (2005) and Bennett and Checkel (2014).

under-investigated features of implementation and post-implementation reviews. This study advances the proposition that institutional factors carry considerable explanatory weight. Specifically, it is advanced that the configuration of implementation and post-implementation reviews is critical in explaining variation in effectiveness.

As stressed by neorealist literature, power and material capabilities are depicted to have the greatest explanatory power at the systemic level. It is thus important not to discount the macro-level factors that can impact on non-proliferation agreements. Economic approaches to nuclear energy and the imperatives of a safe, secure and safeguarded development of nuclear energy play a role in an increasingly globalized, interconnected and computerized market. Moreover, hegemony is exemplified by the U.S. preeminent position in the system as not only the first inventor and user of nuclear technology, but also as a commercial nuclear power world competitor, a donor country in cooperative nuclear projects, one of the world's most important nuclear and dual-use technology suppliers. Definitions and case study analyses have portrayed hegemony as a case of military, economic and social domination exerted on the part of a single state or

group. Hegemony is understood as a preponderant influence or authority over others.[120]

The constellation of interests that actors entertain as highlighted by the neoliberal scholarship is centered at the inter-state level as regards bargaining and decision-making and at the domestic level as regards preference formation. Even though nuclear negotiations have not been the main subject in neoliberal research inquiry, studies go beyond single treatments of the NPT by exploring and explaining a series of other multilateral diplomatic negotiations on arms control, non-proliferation and disarmament. International cooperation in nuclear safety, security and safeguards entails negotiations among different countries and different professional groups across different countries. Therefore, the strategies and processes of getting self-interested actors to cooperate gain traction.

When it comes to the implementation of negotiated agreements, states officials and several national departments are tasked with overseeing nuclear policies. This point does not however imply that states do not seek input, advice and informed opinions from other qualified sources. Studies on the nexus between nuclear non-proliferation and law are scarce and they focus analytical

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[120] Yet hegemonic leadership comes not only from the country spearheading the cooperative initiative but also from the ideals and the allure of leaders and personalities. This is, however, not under the radar of neorealism.

attention to legal aspects.[121] The nature and content of agreements and the obligations states and other actors entertain is an important (institutional) characteristic.

Cognitive aspects are located at lower levels of analytical abstraction. Even if it is challenging to specify beliefs, principles and norms, and even if it is more challenging to isolate their impact, theoretical and empirical studies address domestic politics, knowledge-enhancing transnational networks, epistemic communities, exchanges between scientists and other experts, engagement in multinational nuclear research collaborative, lab-to-lab projects in the science technology and political realms through academia and NGOs.

If institutional effectiveness is the explanandum, then factors and dynamics rooted both in the dimension of operating procedures (implementation, reporting and evaluation) can yield important insights. The policy realm in which the puzzle takes shape is nuclear non-proliferation. The objective is to find out why and especially how institutionalized cooperation proves more or less effective. The topic matters for both theoretical and practical reasons.

Theoretically, there has been a dearth of analyses on cooperation once cooperation has been achieved. Studies have focused both on the first step or what can be called

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[121] See, Joyner, *International Law and the Proliferation of Weapons of Mass Destruction*, 2009.

the 'front-end' of the cooperation loop, that is, the achievement of a compromise, as well as on the final step or what can be called the 'back-end' of the cooperation loop by examining compliance as enforcement. However, what goes on in between has been mostly neglected, particularly with regard to high-stakes security issues where the pull of sovereignty is extremely difficult to shake off, thereby making sustained cooperation elusive. Past works have paid relatively less attention to the stages and operational processes of implementation and post-implementation reviews at the level of the multilateral arrangement. In other words, past studies have been skewed toward the analysis of the causes leading to the formation of cooperative arrangements. Moreover, attention has focused on questions of forms by examining whether cooperation as regimes can be seen in diverse issue areas, rather than on questions investigating the substance and characteristics of arrangements. Previous analyses have been carried out in a compartmentalized manner by focusing on single institutional arrangements.[122] What is more, institutionalized multilateral effectiveness — when it has been addressed as a topic connected to the regime research agenda — has been exogenously assessed in terms of enforcement capabilities (the 'back-end' of the

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[122] Studies carried out on single nuclear non-proliferation cooperative activities are numerous. For example, with regard to the Proliferation Security Initiative, see Belcher (2011); for Cooperative Threat Reduction programs, see Shields and Potter (1997); for Resolution 1540, see Bosch and Van Ham (2007), and Scheinman (2008). Yet, there is no analysis aimed at contrasting different regime components.

cooperation loop) or endogenously examined in terms of the parties' compliance with established rules and regulations. These "frozen-in-times" characteristics in the study of regimes point to a gap in the appreciation of the nature of arrangements as evolving dynamics.

Operationally, the prospects of institutionalized cooperation are today more pressing than it has ever been. When it comes to the practice of nuclear non-proliferation, controversies are all the rage. On the one hand, it is interesting to note that multilateral arrangements, such as Security Council Resolution 1540 and the Nuclear Security Summits, are proving successful in mitigating nuclear risks. On the other, multilateral cooperative venues and mechanisms aimed at securing nuclear weapons and materials, and therefore directly touch upon the same policy areas, such as the reviews of the NPT and the old-fashioned diplomatic groupings within which states interact, the impasses over a FMCT at the Conference on Disarmament in Geneva and the CTBT, are stalemated.

In this regard, the empirical part makes the case for the variation in effectiveness between these two sets of cooperative arrangements and, most importantly, back up these claims. It is central to support contested claims as to why the NPT arrangement is not as effective as other similar cooperative endeavors. Examining what makes

arrangements work well is crucial and is likely to have far-reaching implications, especially when it comes to the design of future multilateral treaties, their implementation and post-implementation review mechanisms.

It is advanced that whether an issue has been successfully dealt with is the product of the interaction of two streams or sources of effectiveness, that is, the cognitive ends-mean dimension and the institutional (implementation-management) dimension. Specifically, cognitive convergence or divergence between problems to be tackled and solutions to be pursued, coupled with process-based institutional frameworks, are two central exploratory and explanatory grand variables. Observable proxy indicators of cognitive convergence or dissonance include, but are not limited to, vocalized and written conceptions of problem-to-solution links, as well as issue-linkages across a number of representative states, individual decision-makers, negotiators and organizations. It is claimed that the investigation of linkages between problems and solutions, as well as between issues, is a way of investigating cognitive dynamics.

A hypothesis to take into account is that if no empirical evidence supports the existence of high degrees of mutual knowledge and issue linkages, then the given multilateral arrangement will be less likely to be effective in the short time and sustainable over time.

Operationally, cognitive dynamics are understood as comprising the two dimensions of issue-specific knowledge and issue area linkages. For example, questions include whether observable attempts are being made at making relationships and linkages between nuclear security and the disarmament-non-proliferation-peaceful uses of nuclear energy pillars. What is the status and how is the presence of nuclear weapons and materials perceived by states at aggregate levels?

When it comes to defining and measuring effectiveness of multilateral frameworks, the dimension of implementation-management gains traction and is therefore isolated. In nuclear non-proliferation, a recurrent concern is the fear of being cheated that can be fueled by lack of transparency, distrust and information confidentiality. Therefore, monitoring-related factors gain the upper spot. The institutional dimension includes, but is certainly not limited to, such activities as periodic revisions of the operations, other more or less routinized activities and awareness-raising efforts, the participating actors as well as transparency- and confidence-building measures. In addition, a hypothesis to test is that the extent to which a given cooperative arrangement is effective is correlated to the structure and organization of implementation and how progress, or lack thereof, is monitored through reporting and similar

accountability-related requirements. In other words, the degree of institutional effectiveness is contingent on the ease with which progress can be monitored. How can implementation success be measured?

In assessing problem-solving effectiveness, a number of factors and questions are worth considering. Factors include the degree of comprehensiveness in terms of actors' participation in the cooperative program and the extent to which that given type of cooperation spurred the intended effort. Operationally, what are the objectives and key purpose each cooperative effort aims at? What are the most visible contributions and drawbacks that a host of different activities and initiatives has achieved? How have cases of non-compliance been dealt with? Assessing the effectiveness of non-proliferation arrangements requires a multidimensional and interactive analytical framework. The framework should be able to first isolate the pathways to effectiveness, which this study hypothesizes in operating procedures of implementation and post-implementation. Beliefs are operationalized in the cognitive dimension as, among other indicators, issue-linkages. This follows past and recent attempts to pinpoint sources of variance across regimes. Practices are operationalized in the institutional dimension as, among other proxy indicators, implementation review mechanisms. Schematically, the following table synthetizes the sources

of change by highlighting the dimensions, the specific
aspects and the propositions that each of the three case
studies takes into account.

Dimensions	Features	Analysis
Cognitive Stream	Issue-linkages	What if any ar relationships/dynamics o nuclear security an disarmament, non-proliferation peaceful uses, safety an safeguards? What if any ar relationships/dynamics o nuclear security an development, environment economics?
	Underlying norms	Are they widely shared o contested?
	Nascent norms	Are there any normative shifts Can they be easily incorporate into existing institutiona structures?
	Epistemic communities	Are there any present? If so who, why, what and how do the influence the cooperativ arrangement? How are the perceived officially?
	Influential actors	Presence or absence o influential actors?

Institutional Stream	Scope	What is the objective of th arrangement? What specifi issues are covered?
	Institutionalization level	What is the nature and conten of the rules and regulation governing the arrangement Formal, informal or a mix? Ar there periodic meetings?
	Organizational setup	Presence or absence o secretariats and support units
	Membership	Who participates and in wha capacities? Who is out? I insider-outsider relationshi difficult?
	Implementation	Actors and tools
	Post-Implementation Review	Actors and tools. What is th quantity and quality o reporting? Reporting monitoring

Data uncovering cognitive patterns are extrapolated from interviews and conversations with key negotiators and experts. In order to analyze implementation dynamics, data are extrapolated from publicly available reports, official government statements and evaluation materials scanned through descriptive analysis and within-case process tracing.

A general methodological issue that must be clarified at the outset relates to the nature of relationships between variables under investigation. Considering the number of interlocking variables, endogenous and exogenous factors that come into play, this study does not attempt to uncover causal relationships between cognitive convergence and institutional effectiveness or between given implementation frameworks and institutional effectiveness. Despite the use of terms such as variables, measures and operationalization issues, this study claims that single-factor relationships in this case cannot be proven. It follows that the relationships tested and substantiated in this study are modest correlations, not real causations.

Despite the difficulty of reliably analyzing whether and how intangible belief systems have an impact on the dependent variable, studies that address cognitive dynamics and ideational factors in general have been carried out since the 1960s.[123] There are four major methodological problems that arise when seeking to analyze beliefs, and they relate to the fact that the sources for establishing beliefs are written and vocalized official statements and positions. First, vocalized beliefs may be stated in a general manner and may thus leave too much

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[123] For a comprehensive discussion of the theoretical dimension of ideational factors in the study of international politics, for methodological challenges associated with tracing causality, as well as for ways to overcome the difficulty of analyzing intangible factors, Little and Smith (1988).

room for subjective interpretation. Second, vocalized beliefs may be deliberately false or may not reflect reality. In this regard, messages by government officials may be targeted to specific audiences. Third, vocalized beliefs may differ from one sector of the government to the other, and from one official to the other. Finally, dynamics of beliefs and ideas have been studied separately as they can happen individually in anybody's mind or within groups. These methodological problems notwithstanding, there are some reasons to remain confident that an analysis of beliefs can yield interesting results quite accurately. A strategy to minimize the above methodological challenges is to structure and conduct interviews and formulate questions that serve to elicit information. This study is carried out through expert-level interviewing. Interviews are conducted with senior-level government officials from different government departments and with negotiators.

Chapter III

The Treaty on the Non-Proliferation of Nuclear Weapons

Introduction

Concepts and communicative patterns are extremely important in international multilateral settings and highly complex issue areas, such as in those existing across the nuclear domain. The meaning of words, the interactions among them and the cognitive structures of meaning espoused by political leaders, diplomats, lawyers, generals and other professional groups should never be discounted as petty stuff. On the contrary, such constantly evolving features are thought to affect the rise and evolution of institutionalized cooperation and, therefore, should be taken seriously as a matter of empirical investigation. Following IR's socially constructivist and legally positivist understandings of politics, as much as structure and agents interact to produce reality, so too written and verbal communication nest inside one another to produce the constraining, 'binding' meaning of reality.[124] As this case study shows,

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[124] See studies on the interactions of structure and agent by Wendt, *Social Theory of International Politics*, 1999; Risse, "Let's Argue: Communicative Action in World Politics," *International Organization*

interpretation dynamics are highly relevant to crosscutting non-proliferation matters, not only within the (con)-text of the 1968 NPT, but most notably within NPT Review Conferences.

Historically, the central method of cooperation between states for dealing with military-civilian, dual-use nuclear technology has been through the negotiation of agreements and the implementation of ensuing obligations. Ideally, negotiated agreements bind their (states) parties to pursue common objectives, implement specific courses of policy actions and review performance. The NPT is hailed as representing the foundations of the international nuclear non-proliferation regime. It is based on a fundamental common interest in the security threats posed by proliferation and is also the first instance among analogous treaty-based approaches to managing and regulating "Weapons of Mass Destruction" — i.e., classes of weapons deemed so materially destructive and morally despicable as to require strengthened oversight and verifiable dismantlement, if not outright disarmament efforts.[125] The 1968 NPT is the evolution of multilateral

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54: 1-39; Müller, "Arguing, Bargaining and All That: Communicative Action, Rationalist Theory and the Logic of Appropriateness," *European Journal of International Relations* 10: 395-435. For a stock-tacking theory assessment, Holzscheiter, "Between Communicative Interaction and Structures of Signification," *International Studies Perspectives* 15: 142-62.

[125] As is ultimately the case with both the Biological and Chemical Weapons Conventions, entered into force in 1972 and 1993, respectively. Indeed, while there is an unambiguous obligation to chemical and biological disarmament, this is not the case with the NPT. Since 2010, attempts to fill the legal gap are in resurgence. Notably, by a vote of 123 states in favor, 38 against and 16 abstaining, in October 2016 the First Committee of the General Assembly passed a resolution in which it decided "to convene in 2017 a United Nations conference to negotiate a legally binding instrument to prohibit nuclear weapons,

efforts undertaken since the first gathering of the U.N. General Assembly in 1946 and is centered on tackling nuclear problems in the most resolute and holistic manner as conceivable at that historical conjuncture.[126]

However, in marked contrast with the original master plan elaborated in 1946, the NPT's title runs the risk of failing to convey in the minds and in the actions of states and other groups the magnitude of its provisions. While in the historic U.N. General Assembly Resolution 1(I) of 1946 "non-proliferation" was understood as the complete elimination of all atomic weapons (i.e., effective nuclear disarmament), NPT negotiations did crystallize this notion into something different, controversial and potentially dangerous, which raised and continue to raise recurring, deep-seated controversies between NPT states parties. By the letter of the NPT, yet certainly not by its spirit, 'non-proliferation' was meant as the non-dissemination of nuclear weapons to all states *except* for a restricted and special group thereof, thereby making their possession legal and legitimate in the eyes of others, as well as in the eyes of the possessors themselves.

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leading towards their total elimination." See: http://reachingcriticalwill.org/images/documents/Disarmament-fora/1com/1com16/resolutions/L41.pdf.

[126] Despite being one of the world's most widely ratified treaties, universality ambitions are heavily challenged by the presence (and influence) of four nuclear-armed states that are not parties to the NPT, specifically India, Pakistan, Israel and North Korea. Repeated calls to NPT universality and attempts to let the four remaining nuclear weapons possessor states join the NPT as Non-Nuclear-Weapons States (NNWS) are based on idealism rather than on pragmatism.

Even though NPT negotiators had to take into account real-world developments that had been occurring across the nuclear domain between the start of negotiations in 1961 and the signing of the treaty in 1968, and specifically those 'crises or external events' resulting from the acquisition of atomic weapons by the Soviet Union in 1949, Great Britain in 1952, France in 1960 and China in 1964, the argument according to which "context matters" nonetheless provides no grounds for the way in which the NPT discriminates between two classes of states with perceived and real differing and unbalanced rights and obligations, which are nowadays being exacerbated by an increasing disconnects between text and declaratory statements delivered at NPT Review Conferences, on the one hand, and context and operative activities, on the other. As the first section of this chapter documents, the 'non-proliferation' treaty is intrinsically linked to, and cannot be fully understood separately from, nuclear 'disarmament'.

A further point to underline at the outset concerns the extent to which the NPT and its arrangement fit into the phenomenon under analysis. In other words, how does the NPT relate to multilateral nuclear non-proliferation cooperation or, conversely, how do new and emergent nuclear non-proliferation threats, including terrorism, correlate with the NPT context? As a matter of fact,

books, journal articles, policy and media accounts, along with the conduct, management and actual outcomes of multilateral nuclear diplomacy, describe the NPT as consisting of a series of negotiated bargains in the "three pillars" of 'non-proliferation', 'disarmament', and the 'peaceful use of nuclear energy'. Further, another taken-for-granted point in use by policymakers, scholars, experts and the media describes the NPT as 'the cornerstone of the regime for nuclear non-proliferation.' While novel cooperative mechanisms in this field mostly relate to non-state proliferation, as is the case for example with Security Council Resolution 1540 or with the Nuclear Security Summits, the NPT is preeminently concerned with state-centered proliferation. What is more, there is no explicit reference to nuclear security or nuclear terrorism in the treaty's text, nor any direct mentioning thereof in the Statute of the IAEA, the foremost organization devoted to the promotion and development of peaceful nuclear activities under specific monitoring and verification arrangements.

While some pundits have advanced arguments according to which non-state nuclear threats or the issue of nuclear security in general should be considered as a "fourth pillar" of the NPT-based regime — given also the heightened attention on the threats posed by terrorist organizations, non-state actors, drones and cyber-attacks

—, other observers have argued against this interpretation, maintaining that this characterization may lead to an even more pronounced polarization among NPT parties.[127] Still some other experts cogently argue that the security of all things nuclear is already by itself the essential foundation of, and necessary precondition for, the existing NPT's three-pillar structure.[128]

Be as it may, it is here advanced that both the NPT and its arrangement made up of recursive implementation review exercises in the form of quinquennial NPT Review Conferences are extremely relevant to the phenomenon under study. In other words, while much has been written about the linkages across the three NPT pillars, yet not exclusively on 'non-proliferation' and 'disarmament', what has been left unaccounted for is the potential role and impact that a transformed, reimagined nuclear non-proliferation debate can have on NPT dynamics.[129] Specifically, the ways in which novel managerial aspects that have emerged from similar cooperative engagements, such as the Nuclear Security Summits and the U.N. Security Council's 1540 arrangement, may contribute to the

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[127] For sources arguing for the consideration of nuclear security as a fourth NPT pillar, see the report by U.K. Cabinet Office, "The Road to 2010: Addressing the Nuclear Question in the Twenty-First Century," 2009. Document available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/238560/7675.pdf. For sources arguing against, see "Tacking Stock of the NPT: An Interview with U.S. Special Representative Susan Burk," at: https://www.armscontrol.org/act/2010_03/Burk.

[128] Bowen and Van Dassen, "Nuclear Security and the Three Pillars of the NPT: Identifying a Lasting Relationship," 2014. See also, Bunn, "Nuclear Security is the Foundations for the Three Pillars of the Nonproliferation Treaty," *Nuclear Security Matters*, 2014.

[129] A notable recent exception exists. See, the report by Choubey, "Towards Disarmament Securely: Clarifying the Nuclear Security and Disarmament Link," *Foreign Policy Institute*, 2015.

consolidation of the NPT itself and to the effectiveness of future NPT review cycles is the subject of investigation of this chapter.[130]

Recently, there has been a healthy debate among scholars and nuclear policy practitioners about how progress in the NPT should be 'measured' and about what that progress actually entails.[131] However, scant or no attention has been paid so far to intra-NPT characteristics under which this improvement can come about. These endogenous features — potentially conducive to better performing institutional practices — are, for example, treaty review conferences, implementation monitoring arrangements, as well as recursive reporting. It is on those unique, yet periodic, occasions that concepts and communicative patterns take pride of place and evolve.

As a consequence, a critical analysis of the negotiations that led to the signature of the NPT in 1968 and its prompt operative beginning, entry into force in 1970, as well as an evaluation of its cyclical Review Conferences can shed new lights on procedural and substantive stumbling blocks and stepping-stones to

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[130] These are, for example, the establishments of regional and national 'contact groups' or 'points of contact' along with several knowledge and capacity-building activities, such as the 'centers of excellence' initiatives, coupled with the experimentation of alternative interactive processes aimed at reaching consensus. These endogenous transformations are evidence of new multilateral governance approaches being pursued across one of the most sensitive political domains in existence.

[131] Several studies by NGOs and university-affiliated research centers attempt to gauge progress, or lack thereof, in NPT implementation. Chief among them are periodic reports issued by the Center for Nonproliferation Studies, the Arms Control Association and Reaching Critical Will.

effective and sustainable nuclear multilateralism. By
relying on primary sources and authoritative written
accounts of the NPT,[132] as well as by drawing upon my
personal exposure to multilateral nuclear diplomacy,
particularly the momentous[133] 2012 Preparatory Committee
meetings at the IAEA for the 2015 NPT's Review Conference,
as well as numerous conferences and seminars on NPT-
related issues over the years,[134] this chapter focuses on
the treaty's formation and explores its evolution. It
unfolds into four sections.

The first section gives a brief review of the early,
pre-NPT approaches to non-proliferation, the treaty's
negotiating history and, by also taking into account
organizational and IAEA matters, provides a critical
reflection on the major developments in the nuclear non-
proliferation domain that led to the NPT and its entry
into force in 1970. While a lot of in-depth analyses have
scrutinized the origins of the NPT, there still is a

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[132] See the three-volume study by Shaker, *The Nuclear Non-Proliferation Treaty: Origins and Implementation, 1959-1979* available online at: http://www.nonproliferation.org/the-nuclear-non-proliferation-treaty-origins-and-implementation-1959-1979/. See also the legal inquiry by Willrich, *The Non-Proliferation Treaty: Framework for Nuclear Arms Control*, 1969. In addition, Dhanapala with Rydell, *Multilateral Diplomacy and the NPT: An Insider's Account*, provides additional primary information. Johnson, director of the Acronym Institute for Disarmament Diplomacy, and several other reporters provide regular and comprehensive assessments.

[133] It was indeed a momentous time in NPT history, as 16 states, led by Norway and Switzerland, issued the first joint statement on the humanitarian dimension of nuclear disarmament, calling on NPT's NWS "to give increasing attention to their commitment to comply with international law and international humanitarian law" and calling on all "[NPT] states to intensify efforts to outlaw nuclear weapons and achieve a world without nuclear weapons." This led to the development of a movement led by an overwhelming majority of NPT's states parties (over 110 states) to ban nuclear weapons and, ultimately, to the 2017 nuclear ban treaty negotiations.

[134] In particular, the four International Nuclear Policy Conferences organized by the Carnegie Endowment for International Peace between 2011 and 2017 as well as the ISODARCO Winter Courses organized by the Italian Pugwash Group in 2011, 2014 and 2015.

paucity of studies dealing with the treaty's review process, its organization and management. The second section seeks to remedy this shortcoming and, thus, shifts focus from the establishment to the implementation review stage. In particular, it delves into an examination of the NPT's review process, and looks at its modus operandi, objectives and tasks. The third section looks at the 1995 and 2000 Review Conferences, a period that can be duly described as a 'non-proliferation' renaissance and in which significant intra-regime and intra-NPT modernizations were brought about. The fourth section examines the Review Conferences held in 2005, 2010 and 2015 by taking into account both procedural and substantive developments. Finally, the conclusion evaluates the findings in light of the explanatory factors that cooperation theories and regime approaches consider as having the most impact on institutional effectiveness.

Crafting nuclear non-proliferation: early approaches on the path to the treaty

Though the first resolution of the first session of the U.N. General Assembly in 1946 is widely considered to be the first example of common action on nuclear proliferation, the Declaration on Nuclear Energy of November 1945 issued by the U.S., Canada and the U.K., as

the world's holders of nuclear knowledge and masters of atomic energy of the time, can be regarded as the earliest manifestation of nuclear multilateralism and direct forerunner to General Assembly Resolution 1(I).[135] Indeed, the latter heavily borrows from the language contained in the tripartite document, in particular when it comes to stressing the need of working together in the development of atomic energy and in the elimination of nuclear weapons.

As such, a basic truth under the guise of a complex dilemma was realized right at the dawn of the nuclear age. The seemingly intractable problem consists in the recognition of the supposedly unbreakable overlap between peaceful and military applications of atomic power and in the ensuing challenges of drawing boundaries between the two. It was and still to this day is extremely difficult to firewall commercial nuclear technologies from military technologies. Most crucially, it is extremely challenging to verify that these technologies are not diverted to undeclared and potentially malicious purposes.[136]

Recently, following documented cases of non-compliance with nuclear safeguards agreements by NPT's NNWS, including in the context of the longstanding,

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[135] The text of the 1945 Declaration is available at: http://www.nuclearfiles.org/menu/key-issues/nuclear-energy/history/dec-truma-atlee-king_1945-11-15.htm. The text of the first-ever UN General Assembly Resolution of 1946 is available at: http://www.un.org/documents/ga/res/1/ares1.htm.

[136] For example, the same gas centrifuge used to enrich uranium for nuclear fuel used in commercial reactors can also be used to enrich to weapons-grade uranium.

decade-long controversy related to the possible military dimensions of the Iranian nuclear program as well as in the context of the 2015 JCPOA negotiated by Iran, the permanent members of the Security Council and NPT-sanctioned NWS, along with Germany and the European Union, outstanding puzzles and shortcomings related to the interpretation and application of the NPT need to be clearly spelled out. For example, the NPT is silent on science and technology, uranium enrichment and plutonium reprocessing, research and development, as well as on a string of dual-use applications of nuclear energy. So far, the Preparatory Meetings of NPT States Parties and the Review Conferences themselves have not approached these NPT-based deficiencies heads-on, and most of problem-solving efforts in these areas have occurred outside the NPT framework.

One of the earliest and most remarkable steps taken in the con-text of 'non-proliferation' comes from the Report on the International Control of Atomic Energy, the so-called Acheson-Lilienthal Report of March 1946.[137] As the Report indicates, nuclear technology was seen as fundamentally interchangeable and interdependent. Notably, the Report is one the first historical in-depth analyses dwelling on nuclear secrecy — the U.S. was at the time of

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[137] The Report is often referred to as the Baruch Plan, named after an American businessman from Wall Street who was appointed by U.S. President Truman as delegate to the U.N. Atomic Energy Commission. The full report is available at: http://www.atomicheritage.org/key-documents/acheson-lilienthal-report.

the report, yet for just a short period of time, the single possessor of nuclear weapons. It maintained that the only sure way to approach the double-edge sword of atomic energy was to have an international oversight and verification arrangement. In short, multilateral cooperation was necessary to prevent any potential misuse.

Envisaging what will become the key strategic approach preached and practiced by the U.S. and the West in the Cold War, so too nuclear matters followed at the very beginning a strategy of containment. Despite calls for the internationalization of all nuclear-related activities, in the immediate aftermath of the Second World War, U.S. non-proliferation policy was straightforward: the objective was to stop, yet not reverse, the dissemination of nuclear weapons and related dual-use technology through the use and application of national technical means of control. As time went by, especially after the shocks brought by the crossing of the nuclear Rubicon by the Soviet Union in 1949, the U.S. acknowledged that the policy of nuclear containment was backfiring, particularly so in light of new competitive dynamics between the Western and the Eastern blocs and between the U.S. and the Soviet Union.

A year after the (successful) nuclear testing by the U.K., in 1953 the U.S. reversed the overall approach to non-proliferation and launched the "Atoms for Peace"

initiative in order to spread atomic technology worldwide. The U.S. motivated this choice as a combination of idealism based on the potential benefits of nuclear energy as a limitless source of energy and on political calculations to use (nuclear) science and technology to increase a competitive edge.[138] Specifically, this non-proliferation policy turnaround originates from U.S. President Eisenhower's address to the eight session of the General Assembly in December 1953, at a time when the nuclear arms race was getting into full swing. His "Atoms-for-Peace" speech represented a compromise between the two extremes of nuclear secrecy and autarchy, on the one side, and nuclear openness and multilateralism, on the other side. One of the most remarkable innovations in Eisenhower's proposal concerns the creation of an U.N.-centered international organization that would facilitate the spread of peaceful nuclear technology under some sort of monitoring and verification arrangements. As such, while paving the way for U.S. leadership over worldwide transactions and laying the groundwork for the creation of the IAEA in 1957 and the NPT as well, the 1953's Atoms-for-Peace initiative contributed not only to additional proliferation, but also to the build-up of modern-day non-proliferation architecture. As the introduction by

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[138] See, for example, the Policy Roundtables of the IAEA Statute at Sixty organized by the International Security Studies Forum at: https://issforum.org/roundtables/policy/1-3-iaea. See also Goldschimdt, *The Atomic Complex*, 1982. By the same author, who had also been the French delegate at the IAEA from 1957 to 1980, see "When the IAEA was born." Document available at: https://www.iaea.org/sites/default/files/publications/magazines/bulletin/bull48-1/48101280610.pdf.

Röhrlich to the International Security Studies Forum's Roundtable to commemorate the sixtieth anniversary of the IAEA Statute elucidates, "To this day, historians are divided on whether Atoms for Peace was merely an act of Cold-War propaganda or an honest attempt to reduce the nuclear threat."[139] Most likely, the allure of the proposal and the actual large buy-in it enjoyed by states, including the Soviet Union, lies in both explanations.

It is within the framework built around U.S. President Eisenhower's proposal that the IAEA was conceived. After three years of multi-party negotiations within a selected and small group of states over its Statute and ever since its establishment in 1957, the IAEA assists its member states and national authorities with research and development in nuclear energy by fostering the exchange of scientific and technical information and by offering sector-specific training.[140] In addition, the tasks of the IAEA include making (binding and non-legally binding) provisions for nuclear materials, equipment and associated installations and, with the entry into force of the NPT in 1970, the U.N.-specialized Agency administers so-called "safeguards" or special controls designed to ensure that materials, equipment and associated technologies, such as uranium enrichment and plutonium

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[139] See https://issforum.org/roundtables/policy/1-3-iaea#_Toc467064763, no page number is given.
[140] Less appreciated peaceful applications are geared toward the protection of human health and the environment, water sanitation, the fight against cancer and several other industrial and agriculture uses.

reprocessing, are not used in such a way as to further undeclared, potentially military purposes. Compounding matters, it is to note that there are IAEA member states that are non-NPT parties, that possess nuclear weapons (enjoying virtual NPT's NWS status) and that sometimes are in a position to reportedly influence deliberations in NPT-related settings.[141]

A related question worth pondering is the extent to which a technical organization, such as the IAEA, interacts with a political product, such as the NPT. Practically, the IAEA contributes a great deal to the implementation of a number of, yet not all, NPT obligations. However, the IAEA should not be conflated with the NPT. In contrast with similar implementation review arrangements in operation in the chemical and biological fields, the IAEA is not a proper NPT-focused implementation monitoring and verification organization. For example, while the NPT deals with both civilian and military aspects of nuclear weapons, the IAEA's remit and expertise does not cover weapons dismantlement and disarmament. Nowhere in Eisenhower's "Atoms for Peace" speech and nowhere in the IAEA Statute is nuclear disarmament or, for that matter, nuclear security,

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[141] An example is that almost the entirety of expert accounts concerning the 2015 NPT Review Conference attributes its failure to reach consensus agreement on a Final Document over, among other factors, the close ties between the U.S. and Israel, a non-NPT state party possessing nuclear weapons. See, for example, Rauf, "Assessing the 2015 NPT Review Conference," in *Reflections on the Treaty on the Non-Proliferation of Nuclear Weapons*, 2016, 206. See also Baklitskiy, "The 2015 NPT Review Conference and the Future of the Nonproliferation Regime," *Arms Control Today*, 2015.

explicitly emphasized. While in the 1940s proposals were put forth that aimed at the direct abolition of nuclear weapons, in the 1950s and 1960s the non-proliferation approach followed a different, indirect course of action. As such, Eisenhower's speech and, relatedly, the establishment of the IAEA can be at best regarded as an indirect, if at all genuinely existent, approach to nuclear disarmament through the development and sharing of 'peaceful' nuclear technology.

Contrary to the original 1946 master plan, the international community opted to follow a dual-track strategy, which demarcated efforts aimed at limiting the wider and deeper proliferation of nuclear weapons from efforts aimed at achieving nuclear disarmament. This is evidenced in the creation of a specially-designated multilateral disarmament arrangement, that is, the Ten-Nation Committee on Disarmament in 1960, which preceded the Eighteen-Nation Committee on Disarmament (ENDC) in operation from 1962 to 1969 and within which multilateral treaties such as the Partial Nuclear Test Ban Treaty and, puzzlingly enough, the NPT were negotiated, and the contemporary Conference on Disarmament, established in 1979. Yet, similar to General Assembly Resolution 1(I), it was not only recognized that the methods with which to pursue non-proliferation and disarmament objectives were cooperative in nature, but also that an institutional

framework   fostering   control   and   cooperation   on implementation was a needed and necessary component.

The first known iteration of a proposal for a treaty-based approach dates to 1959 when Ireland tabled a resolution to the U.N. General Assembly titled "Prevention of the wider dissemination of nuclear weapons."[142] Notably, by following the text of the resolution, the General Assembly was "convinced" that consideration of the dangers posed by proliferation was "appropriate within the framework of deliberations on disarmament." As a consequence, paragraph 1 "suggested that the Ten-Nation Disarmament Committee should consider appropriate means whereby this danger may be averted, including the feasibility of an international agreement, subject to inspection and control, whereby the Powers producing nuclear weapons would refrain from handing over the control of such weapons to any nation not possessing them and whereby the Powers not possessing such weapons would refrain from manufacturing them."[143]

Two years later in 1961, another Irish resolution carrying the same title was unanimously adopted at the U.N. General Assembly.[144] This time, a treaty-based approach in the form of an agreement under some sort of inspection

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[142] See, General Assembly Resolution A/RES/1380(XIV). Document available at: http://research.un.org/en/docs/ga/quick/regular/14.

[143] General Assembly Resolution A/RES/1380(XIV). Document available at: http://research.un.org/en/docs/ga/quick/regular/14.

[144] General Assembly Resolution A/RES/1665(XVI). Document retrievable at: http://www.un.org/en/ga/search/view_doc.asp?symbol=A/RES/1665(XVI).

and verification arrangement, whereby the nuclear-armed would refrain from providing nuclear weapons to the non-nuclear-armed, was considered a necessity. The Irish-sponsored resolution of 1961 represents the genesis of what will become the NPT. Further, in the same year, following the conclusion of the McCloy-Zorin accord between the U.S. and the USSR, the ENDC was established, with both superpowers chairing its meetings and deliberations.

Notably, the transition from the Ten-Nation to the Eighteen-Nation Disarmament Committee as a negotiating forum was dictated by the need to seek to break the decisional impasse caused by the fact that the structure of the former venue was composed of five Western states belonging to NATO and five Eastern states belonging to the Warsaw Pact, thereby making it complicated to reach common views and advance the nuclear agenda, as each bloc had opposed long-term objectives and short-term interests. As such, in 1962 membership in the ENDC was enlarged to encompass eight so-called and remarkably so still to this day "non-aligned" countries, including Brazil, Egypt, India and Sweden. While the U.S. and the Soviet Union progressively learned that they had a significant overlapping interest in halting proliferation to additional states, the non-aligned countries had different objectives in mind. For example, they sought to spur

discussion related to a test ban of atomic bombs (partially reached a year later with the 1963 Partial or Limited Test Ban Treaty), as well as those related to a treaty aimed at stopping the production of weapons-grade materials.[145] Both these noble objectives are still in limbo. Not only is the 1996 CTBT not yet in force, but also are FMCT negotiations.

In addition, the creation of the ENDC meant that an increased and more diffuse interest across the membership of the U.N. was materializing. However, as Shaker and Johnson, the text was to a great extent the result of negotiations conducted bilaterally between the U.S. and the USSR.[146] Consequently, the NPT text as such is skewed toward the preservation of the privileges of the so-called five legally recognized NPT's NWS. The final version of the NPT came to a compromise in which the five countries, which at the time possessed nuclear weapons, would sign as NWS and be allowed to keep their arsenals, while the rest of the world would sign as NNWS. NPT's Article IX solemnly declares that no other countries will be allowed to join the NPT as NWS, thereby permanently capping the number of NWS at five. In essence, in the establishment phase of the NPT regime the self-interest of the two most influential

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[145] Potter and Mukhatzhanova, *Nuclear Politics and the Non-Aligned Movement*, 2012, 40-2. For article-length overviews of the negotiating history of the NPT, see Bunn, "The Nuclear Nonproliferation Treaty: History and Current Problems," *Arms Control Today*, available at: https://www.armscontrol.org/act/2003_12/Bunn. See also, Bourantonis, "The Negotiation of the Non-Proliferation Treaty" *International History Review* 19(2): 347-57.

[146] See, Shaker, 82. See also Johnson, "The NPT and Early Review Conferences," *Acronym Report* 3.

stakeholders, as well as the traction exercised by them over other parties in NPT negotiations, prevailed over normative considerations based on disarmament aspirations.

While the majority if not the entirety of the historical accounts of the NPT negotiations that have been consulted fail to consider issues surrounding the negotiations of the title of the treaty, it can be reasonably argued that the title offers the strongest evidence of its core objective. In other words, the central issue at stake was non-proliferation, not disarmament. Semantics and the language of the short NPT text — composed of 12 preambular paragraphs and 11 articles — lend support to this view. NPT's Article I requires NWS not "to transfer to any recipient whatsoever" and not "in any way to assist" any NNWS "to manufacture or otherwise acquire" nuclear weapons. Likewise, Article II makes clear that NNWS cannot "receive the transfer from any transferor whatsoever of nuclear weapons or of control over such weapons directly or indirectly," "manufacture or otherwise acquire" such devices or "receive any assistance in their manufacture." Similarly, Article III uses explicit language with regard to nuclear safeguards and controls exercised by the IAEA over the nuclear activities of NNWS, using unequivocal terms such as "shall," "undertake," or "require." Compare this sharp use of semantics with NPT's Articles IV and VI. NPT's Article IV

proclaims "all parties undertake to facilitate, and have the right to participate in, the fullest possible exchange of equipment, materials and scientific and technological information for the peaceful uses of nuclear energy. Parties to the Treaty in a position to do so shall also co-operate in contributing alone or together with other States or international organizations to the further development of the applications of nuclear energy for peaceful purposes, with due consideration for the needs of the developing areas of the world." The term "facilitate" is clearly far weaker than the term "shall". Moreover, as much as the terminology "fullest possible" is rather vague and unclear as to what is actually in the realm of "possibilities", "due consideration for the needs" of the developing world is equally nebulous. Article VI calls on all parties "to pursue negotiations in good faith on effective measures relating to the 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." "Pursue negotiations," "effective measures," "at an early date" as well as "in good faith" are all elusive modes of expression, unlike language such as "shall conclude agreements by" a given date or language spelling out precisely what effective measures are or, even better,

what effective measures should look like.[147] In essence, contrary to the non-proliferation articles I and II, the peaceful nuclear energy and disarmament articles IV and VI, respectively, contain substantial ambiguity, which only exacerbated animosity between NPT states and made the peaceful resolution of nuclear conflicts even more challenging to achieve.

Besides Article VII, which enshrines the right of any group of states to conclude regional treaties to assure the absence of nuclear weapons in their respective territories (nuclear-weapon-free zone treaties), the remaining articles are not substantive in nature, as they deal with procedural matters. In this regard, the most interesting provisions on which the next two sections will dwell are contained in Article VIII and X. Although the nature of these two latter articles is bureaucratic, at a closer look they both establish a link between non-proliferation and disarmament obligations. Article VIII, paragraph 3, provided for a Conference of (States) Parties to the Treaty to be held in Geneva "in order to review the operation of this Treaty with a view to assuring that *the purposes of the Preamble and the provisions of the Treaty* are being realized."

Notably, further strengthening the non-proliferation—disarmament link is softly evidenced in the provision of

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[147] The text of the NPT can be found online at: https://www.iaea.org/publications/documents/treaties/npt.

having the Review Conference take place in Geneva where multilateral disarmament matters were and are conventionally discussed and negotiated. Article X set the NPT's duration at 25 years, with a further decision to be taken to determine for how long it should be extended. According to Dhanapala and others, this latter provision was strongly advocated by West Germany and Italy along with several other non-nuclear-armed, yet technologically advanced, states which were not only skeptical about the efficacy of the NPT regime in halting proliferation, but also did not want to tie their hands ad infinitum if others were to develop weapons capabilities with impunity.[148]

Likewise, article VIII should also be viewed under a similar perspective. In other words, as noted by Ozga in one of the very few studies in existence on the NPT review process, and specifically on the history of Article VIII, "the [1975] Review Conference was strongly yet not exclusively linked with providing assurances on compliance with NPT's disarmament obligations,"[149] as mandated in both the Preamble and in Article VI of the NPT. In addition,

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[148] See, Dhanapala, "Planning for the 2010 NPT Review Conference: A Practitioner's overview," in. Dhanapala and Rauf, *Reflections on the Treaty on the Non-Proliferation of Nuclear Weapons*, 2016, 140. See also Ungerer, "The Non-Proliferation Treaty and Its Safeguards," in Avenhaus et al., *Containing the Atom*, 2002, 133-40.

[149] Ozga, "Back to Basics with the NPT Review Process." *Security Dialogue* 31(1): 41-54, 2000, 42. Studies on the NPT review process are rare. There is a notable exception provided by the study conducted by Dhanapala and Rydell, titled *Multilateral Diplomacy and the NPT* and published by UNIDIR in 2005. See also, Hassid, "Reality Test: Strengthening the Nuclear Non-Proliferation Treaty Review Process," *Strategic Assessment* 18(3): 57-67.

the concept of treaty reviews and the possibility envisioned in the text of the treaty of having periodic exercises was a distinctive innovation. Article VIII was not only meant to help ease the imbalance between the majority of states parties who had to do something right away, i.e. accept IAEA safeguards and inspections to prove non-proliferation, and the small minority who made a rather abstract and long-term promise to disarmament, but also was designed to present a way for the majority of states to see how the NPT was operating, express themselves on what they found and produce joint recommendations for action.

In spite of its unambiguous title, the NPT would have not entered in force in 1970 if preambular references and treaty-text provisions related to civilian energy cooperation and nuclear disarmament were not included and given apparent equal status. The (winning) narrative of the NPT's three-pillar structure of non-proliferation, disarmament and peaceful uses was thus born. However, as we shall see next, matters of interpretation are not static but constantly moving, thereby ultimately affecting implementation trajectories. With this in mind, the next section evaluates the status and development of implementation as evidenced in the Review Conferences that have been held, as a matter of practice, every five years since the first NPT Review Conference in 1975.

Implementation review process: Review Conferences in the first age of the NPT, 1975–1990

While a considerable number of studies exist on the origins and history of the NPT, there still are few dealing with the NPT review process, its management and evolution. After analyzing key features of the institution of treaty review conferences, this section delves into an examination of the NPT's implementation review process and looks at its modus operandi from the first NPT Review Conference, held in Geneva in 1975, to the most recent one, held in New York in 2015. In doing so, an analytical line is drawn to separate what can be called a first era of NPT implementation (1975-1995) from a second age (1995–2015).

In international public law, review conferences of agreements are to be distinguished from those diplomatic events devoted to amend specific treaty provisions. While the latter are negotiations to revise or adjust treaty provisions and need specific, enhanced decision-making quorums in order for amendments to pass, the former institution deals with interpretation and implementation review matters.[150] The two are thus distinct phenomena and the text of the NPT makes this evident. Indeed, while the first two paragraphs of NPT's Article VIII relate to

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[150] Carnahan, "Treaty Review Conferences," *The American Journal of International Law* 81(1): 226-30.

amendment procedures, paragraph 3 is about actual review conferences.

Historically, the first-ever post-World War II agreement to provide for periodic meetings of (states) parties is the 1959 Antarctic Treaty, which also includes provisions prohibiting nuclear testing and the disposal of radioactive wastes in the territory of Antarctica, and the first-ever such conference took place in 1961. In one of the few studies on NPT Review Conferences, Sanders notes that the innovative idea of holding periodic conferences to review what and how states parties were performing arose in connection with the NPT.[151] However, Antarctic Treaty-based conferences actually predate the adoption and even the genesis of the NPT. To be sure, in contrast with NPT-based provisions, Antarctic Treaty conferences are hybrids in the sense that they can not only be used to review implementation, but also to amend provisions. What is more, while states parties to the Antarctic Treaty have established an ad-hoc Secretariat with the aim of supporting the smooth conduct of meetings, facilitating communication and disseminating information, no such thing exists in the NPT. The U.N. Office for Disarmament Affairs based in New York and its recently-established Vienna-based Office, as well as the IAEA Secretariat do provide

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[151] Sanders, "NPT Review Conferences and the Role of Consensus," *Program for Promoting Nuclear Non-Proliferation* 4, 1995.

similar services, but technically speaking are not implementation review bodies.

NPT Review Conferences are therefore the only monitoring mechanisms in existence. Reports in the form of Final Documents produced at such month-long diplomatic gathering are the simplest and most straightforward way to gauge non-proliferation and disarmament progress or lack thereof. The IAEA cannot be truly considered the NPT monitoring organization for a straightforward reason: it cannot provide for a cradle-to-grave coverage against the full spectrum of potential cases of non-compliance with NPT provisions. As paradoxical as it may sound, while the primary objective of the NPT is the prevention of the spread of nuclear weapons, the primary objective of the IAEA is to promote *peaceful* applications of nuclear energy. For these reasons, it cannot properly oversee the implementation of the NPT. A full-fledged, standing bureaucracy does not serve NPT Review Conferences. Each is to be organized on an ad-hoc basis. As each NPT Final Documents or Declarations attests, the first procedural step is the acquisition of a resolution by the General Assembly requesting the Secretariat to provide administrative and logistical services for the proposed event. States parties then arrange for the meetings of a Preparatory Committee to set timelines, draft a provisional agenda and rules of procedures, recommend a

structure, nominate a president and other members of the bureau, including the Chairpersons of the Main Committees.

In contrast with amendment conferences, there are no prescribed rules for the adoption of decisions at review conferences. Decisions are customarily adopted by consensus, which is sometimes not the same as the approval of decisions by unanimity. As regards issues of substance, "every effort should be made to reach agreement by means of consensus."[152] Even though it is usually thought that procedural matters are less important and less challenged than those related to substance, as also evidenced in the different voting system, sometimes procedures have acted as stumbling blocks to the achievement of conference outcomes. Therefore, producers including elected personnel and associated personalities matter as they could act as driving forces for either successful or unsuccessful conference outcomes.

Another observation regarding the organization of diplomatic gatherings concerns the nature of the documents that may be adopted. Review conferences usually end up with the adoption of a Final Document or Declaration that state, article by article or in a thematic fashion, the conference's conclusions on the operations of the agreement under review. Consensus based final declarations have not always been possible to achieve. Even though such

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[152] Sanders, "NPT Review Conferences and the Role of Consensus," *Program for Promoting Nuclear Non-Proliferation* 4, 1995.

declarations are not legally binding per se, they certainly possess juridical importance, particularly as a source of interpretations of a treaty. Their legal import is suggested by Article 31, paragraph 3, of the Vienna Convention on the Law of Treaties, which lists a number of factors that need to be considered in treaty interpretation: "(a) any subsequent agreement between the parties regarding the interpretation of the treaty or the application of its provisions; (b) any subsequent practice in the application of the treaty which established the agreement of the parties regarding its interpretation."[153] Notably, the Vienna Convention on the Law of Treaties accords a higher status to subsequent agreements and diplomatic practice than to the "preparatory work" and negotiating history, which is considered, under Article 32, a "supplementary means of interpretation."

Moving on to focus on the NPT arrangement, no guidance is provided in the text of the treaty as to how review conferences should unfold. Article VIII provides for one single of such evaluation exercises after five years of the treaty's entry into force. Paragraph 3 declares "At intervals of five years thereafter, a majority of the Parties to the Treaty may obtain, by submitting a proposal to this effect to the Depositary Governments [the U.S., the USSR/Russia, and the U.K.] the convening of further

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[153] Vienna Convention on the Law of Treaties, available at: https://treaties.un.org/doc/publication/unts/volume%201155/volume-1155-i-18232-english.pdf, 340.

conferences with the same objective of reviewing the operation of the Treaty." It is coincidental that the NPT unleashed its binding effects in 1970, thereby making the treaty-mandated Review Conference take place in 1975 and, as a matter of ongoing diplomatic practice, every five years thereafter.

Notably, the NPT's duration was limited to 25 years. 1995 was not only to "review the operation of the Treaty," but most importantly to "decide whether the Treaty shall continue in force indefinitely or shall be extended for an additional fixed period or periods." Therefore, the 1995 event acquires special meaning and unique political and legal significance for the regime and, as we shall see, for the review process itself. Before that time, the monitoring and implementation review process was at best unstructured and at worst non-existent. Surely, before then the preparatory work was not institutionalized.

The first NPT Review Conference was preceded by three sessions of the Preparatory Committee held in Geneva to devise an agenda, make technical arrangements and decide on rules of procedure. This latter task proved to be the most divisive in the negotiations between the two classes of states parties. While non-nuclear-armed states wanted the Review Conference to reach decisions by majority voting on procedural matters and by two-thirds majority voting on substantive issues, the three nuclear weapons

states (the U.S., the USSR and the U.K.) wanted consensus and no voting. At the end, according to common practice followed in other treaties, a compromise was found according to which every effort should be made toward achieving consensus (not unanimity). Resort to voting would be allowed as last resort.

By the time the first NPT Review Conference kicked off, there were 91 states parties. However, only 57 were in attendance, with surprisingly only one Foreign Minister as state representative, that of Canada. Notably, three nuclear-armed states, France, China and India, plus Pakistan, were the most important non-signatory states not to attend. There were two main committees to review the operations of the NPT and to prepare proposals, which would be then assembled together by a Drafting Committee for potential approval of a Final Document. Committee I was assigned to review implementation of the provisions relating to the non-proliferation of nuclear weapons and disarmament, while Committee II was tasked to do the same with respect to the issue of peaceful applications of nuclear energy. A consensus-based Final Document proved impossible to negotiate because of disagreement on every issue of substance. Major areas of controversy related to the interpretation of Article VI and nuclear disarmament, the ending of nuclear tests and the nuclear arms race and, correspondingly, to appropriate language over a CTBT.

Despite unbridgeable divergences in the interests and power relationships among the parties and coalitions thereof, the President of the Review Conference (Swedish diplomat Thorsson) circulated her own draft, reaffirming the support of all parties for the NPT as the cornerstone of international peace and security and reflecting their agreement on the vital objective of averting the further spread of nuclear weapons. Remarkably, because of non-material qualities epitomized by the assertive personality and strong leadership of the Swedish President, a Final Document was eventually adopted in 1975.[154] That Final Document was not generated through genuine negotiations, but rather the President of the Conference by and large forced it. It however set the precedent for future NPT Review Conferences to produce documents detailing measures to further the NPT.

On the issue of Final Documents, it is to note that according to conventional wisdom, Review Conferences are assessed as successful if a Final Document ultimately gets approved. Likewise, if a Conference fails to do so, it is considered a fiasco. Should then 1975 or for that matter any other Review Conference judged as a success? The answer is no. Generally, this evaluative metric is insufficient. Historical evidence shows that there have been positive outcomes when no Final Document was approved

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[154] Dhanapala with Rydell, *Multilateral Diplomacy and the NPT,* 8, 21 and 141.

and, correspondingly, that there have been rather meager results when a consensus Final Document was adopted. An example of the former could be the 1995 NPT Review Conference and an example of the latter could indeed be 1975. However, 1995 represents a case in its own right and might not be considered as appropriate or representative. Others can however be advanced. For instance, while the most recent 2015 Review Conference ended "in failure", states parties and specifically the NWS were able to work on and complete a first edition of a glossary of key nuclear terms that could ideally form the basis for future multilateral, 5-plus nuclear disarmament negotiations. This is no small step. On the contrary, the 2010 NPT Review Conference was heralded as a striking success with the adoption of a consensus report and a further agreement on a 64-point NPT Implementation Action Plan, identifying steps states should take across the three pillars of the NPT to advance its goals. However, more than five years into its adoption, states have not followed through its prescriptions and, according to an overwhelming majority of views, the NPT's Action Plan cannot be considered adequately implemented. Notwithstanding the above, whether or not a Review Conference ends with a Final Document still goes a long way to explain the status across the non-proliferation domain.

As noted by Epstein with reference to the 1975 Review Conference and the Final Document in particular, "It is doubtful whether the final declaration will do anything to help the NPT survive. It contains nothing that could provide any incentive to the near-nuclear holdouts to give up their option to go nuclear. On the contrary, it can provide arguments and pretexts for them to go nuclear."[155] However, the lesson was that by the time of the first Conference a precedent was set by which, in cases of stalemate on seemingly intractable issues, possible institutional, organizational and decisional remedies to break the impasse and save a Review Conference from failure could be experimented by its President and associated collaborators, including the Chairpersons of Main Committees and the Chairperson of the final session of the Preparatory Committee.

Five years later, the second Review Conference took place in Geneva, the global capital of multilateral (nuclear) disarmament negotiations. Apart from a membership increase from 91 to 112 states parties to the NPT, of which 75 actually participated, nothing much was to be observed during the diplomatic gathering. As in 1975, major rifts between the parties concerned the disparities in the implementation of NPT obligations, those related to safeguarding nuclear technologies and

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[155] Epstein, "Failure at the NPT review conference," *Bulletin of the Atomic Scientists*, 1975, 48.

those related to Article VI and nuclear disarmament. As noted by a former SIPRI director and direct observer to the 1980 Conference, "my general impression of the Review Conference was that there was disarray among the Western powers, unwillingness on the part of the superpowers to give any concessions on nuclear arms control, and inflexibility in the demands of the non-aligned."[156] In addition, besides the absence of political will by both NWS and NNWS, the inability of this Conference to agree on a Final Document may well be correlated to a lack of management and problem-solving skills on the part of the conference bureau. Notably, most of the subject-matter sources consulted fail to state the name of the President of the Conference.

By the time the 1985 NPT Review Conference kicked off, ten additional NNWS entered the club. Notable institutional innovations included the agreement to make the Preparatory Committee open-ended so that any state, independently from its status vis-à-vis the NPT, could participate. Further, in addition to the General, the Drafting and the Credentials Committees, the number of Main Committees increased to three. Main Committee I was to review the provisions on non-proliferation, disarmament and security. The Chairperson elected was Ambassador Dhanapala of Sri Lanka who led the work of the third and

[156] Barnaby, "The NPT review conference – much talk, few results," *Bulletin of the Atomic Scientists*, 1980, 8.

final session of the Preparatory Committee. To Main Committee II fell the task of reviewing those provisions relating to the non-proliferation of nuclear weapons, safeguards and nuclear-weapon-free zones and Main Committee III was devoted to deal with peaceful uses. This structure has remained like this ever since.

As in 1975 and 1980, the majority of states expressed in their statements disappointment over the lack of progress to, if not regress from nuclear disarmament. Questions of compliance with Article VI in light of the increased threats posed by the arms race — since the NPT's entry into force in 1970, the number of weapons rose from 6,000 to over 20,000, dominated the substance of the statements delivered. The final result of the third Review Conference was far more productive and less contentious than its antecedent in 1980. This raises a question worth asking. Why is that that this time around states parties adopted a real consensus-based Final Document despite facing the same nuclear dilemmas and substantive conundrums as in 1975 and 1980? The answers may well rest in the different procedures followed. Indeed, the President of the Conference, Egyptian diplomat Shaker, who will later be the author of one of the most authoritative accounts and certainly the most voluminous report of NPT negotiations, made use of a small, voluntary contingent of consultants involving the three Chairpersons of the Main

Committees, representatives of regional NPT groupings, such as the Non-Aligned Movement, and the three depositary states, along with various heads of delegations, members of the Secretariat and others who possessed expert knowledge of the review process. As noted by Sanders, this procedural innovation "facilitated the President to intervene whenever problems arose and to seek to achieve compromises – which in turn prompted delegations to make concessions and arrive at consensus language."[157] Similarly, the Committee Chairpersons followed analogous modus operandi in their respective areas of competence and, in the end, compromises could be achieved. As in 1975 and even more than 1975, leadership, personalities and perhaps even the ensuing chemistry developed between and among participants explain why, in the face of recurring and seemingly intractable problems, compromises could be achieved.

By 1990, the NPT had 140 states parties, of which 84 participated. Once more, divergences in the evaluation of the implementation of Article VI, especially those regarding a treaty banning nuclear weapon tests, could not be resolved. As such, no agreed final declaration emerged. According to Dhanapala, "the bad personal rapport among some delegates – even within the same regional group – contributed to an atmosphere that was scarcely conducive

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[157] Sanders, 2.

to the success of the Conference."[158] Further, Sanders noted
how the Main Committees were not capable of fine-tuning
their work and produce cohesiveness. A lack of "conference
management" skills contributed to the inability of
arriving at a consensus declaration. In Sander's own
words, "The three Main Committees worked in different
ways. Main Committee I set up subcommittees, which came up
with papers that reflected both agreement and disagreement
and were then sent to the Drafting Committee in that form.
Main Committee II worked in plenary, agreed on much but
disagreed over a proposal to start preparing for the 1995
Conference right away. Main Committee III agreed on almost
everything on its agenda."[159]

What is to point out is that conference management
skills, working methodologies, decision-making processes
and personalities can sometimes serve to obstruct progress
rather than being conducive to progress. Whereas in 1975
and in 1985 procedural dynamics and personalities worked,
thereby indicating a considerable role played by
endogenous factors in the extent of cooperation and
further progress, in 1980 and in 1990 they simply did not
deliver. Participating states can sometimes hide behind
procedural issues if this serves their short-term
interests and own agendas. The challenge is then to
reconcile procedures with politics and processes with

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[158] Dhanapala with Rydell, 21.
[159] Sanders, 3.

outcome. While definitely not a panacea for all the ills affecting the Treaty, intra-NPT innovations procedures can certainly contribute to leveling off genuine conflicts, which are embedded in the NPT text. Such recurring divergences mostly relate to issue complexity, rule ambiguity and information asymmetry among and between NPT states parties. The momentous 1995 NPT Review Conference sought to do just that by searching for an equilibrium between contemporary political realities on the ground and deep-seated political aspirations transpiring from the letter and the spirit of the NPT. In other words, states parties worked together and non-governmental organizations endeavored to simplify complexity surrounding NPT-based nuclear issues, clarify NPT-based principles and provide a more productive review.

Review Conferences in the second age of the NPT, 1995-2015

Focus on 1995

1995 signaled the end of adolescence and the beginning of adulthood for the NPT arrangement. The Treaty reached the end of puberty in 1995, 25 years after its entry into force. According to Article X, paragraph 2, a conference was to be convened to decide on its future and, precisely, on whether to extend it indefinitely, for fixed periods of

time or for a fixed period after which the NPT would cease to exist.

Underlying the importance attached by states to the NPT in the maintenance of nuclear peace and security and predictability, the option to let the NPT decay in 1995 was not seriously taken into consideration.[160] Quite the contrary, as former President of the 1995 Conference, Dhanapala, has observed, there was alignment of opinion regarding the treaty's extension. In his own words, "By the end of the last session of the PrepCom [Preparatory Committee], it was quite apparent that the NPT would be extended, though it was not entirely certain that the extension would be indefinite or without conditions."[161]

It is to bear in mind that the environment within which these instruments and institutions operate should not be taken for granted. 1995 differs greatly from 1990, not only in terms of geopolitics and bilateral U.S.-Russian relations, but also across the nuclear domain itself. Between 1991 and 1992 France followed by China — the two NPT's NWS that had shied away from the Treaty's remit since the very beginning, negotiations included, because of the NPT's built-in inequities — proclaimed their intention to join the club. The equation according to which the permanent members of the U.N. Security

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[160] Bunn and Van Doren. "Options for Extension of the NPT: The Intention of the Drafters of Article X.2," in *Options and Opportunities: The NPT Extension Conference of 1995*. 1991, 9-10. Cited by Duncan, in Avenhaus,et al,174.
[161] Dhanapala, 28.

Council are those that legally possess nuclear weapons was thus finalized. Between 1990 and 1995, former Soviet and Yugoslav Republics, former nuclear-armed South Africa and other important nuclear holdout players acceded. Perhaps even more fundamentally, negotiations started at the Conference on Disarmament in 1994 over a CTBT were showing signs of progress. Coupled with moratoria on weapons testing by Russia, France and the U.S., along with reductions in nuclear weapons following bilateral U.S.-Russian negotiations, the NNWS had good reasons to feel hopeful about the pace of disarmament.

It is also then within this broader context that parties approached the sessions of the Preparatory Committee with a willingness to compromise and reach consensus that was largely unseen on previous occasions. Preparations for the 1995 Conference witnessed a total of four preparatory meetings, after which most procedural issues, such as a provisional agenda, the organization of work within the three Main Committees and their respective chairpersons, a timeframe and the admittance of non-governmental organizations and other stakeholders, were agreed. The organizational framework and decision-making procedures by which the extension decision was eventually reached was one area where creativity and logic proved, again, indispensable. In addition, while traditionally denied a participatory role in the preparatory process,

NGOs were given access to the final sessions of the Preparatory Committee. This constitutes a welcome addition, not least by making NPT review processes more transparent.

By the time the 1995 gathering kicked off in New York, 178 states were NPT parties. 175 thereof, along with over 190 NGOs participated in the Conference. While Dhanapala notes that the decision to hold the Conference at the U.N. headquarters was dictated by the fact that smaller diplomatic missions had a harder time to organize themselves and assemble in Geneva, it may be added that the choice had also political meaning.[162] It is noteworthy that by the letter of the NPT, the exercise of reviewing the implementation of the NPT at a five-years interval and the extension conference are to be seen as two distinct sets of undertakings. However, the 1995 Review Conference has gone down in history as the 1995 NPT Review and Extension Conference. Therefore, it was expected that the outcome of the former process would affect the decision on the latter, as was ultimately the case. Following three sets of hard-fought measures regarding an institutionalized implementation review process in order to make NWS more accountable vis-à-vis NNWS and to create a deeper sense of responsibility toward NPT implementation by NWS and NNWS alike (*Decision I* on Strengthening the

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[162] Dhanapala, 18.

Review Process for the Treaty); stronger and clearer commitments to nuclear disarmament, mostly falling on the shoulders of NWS (*Decision II* on Principles and Objectives for Nuclear Non-Proliferation and Disarmament); and, finally, the creation of a zone free of nuclear weapons in the Middle East (*Resolution* on the Middle East), the Conference was then able to reach Decision III on the indefinite extension.

Remarkably, the three far-reaching decisions and the resolution were all adopted on a single occasion, by consensus and without recourse to voting. This achievement was to a great extent possible because of the reportedly creative negotiating tactics carried out by the President of the Conference, South Africa and Canada, among others — who were able to pool together a group of heterogeneous countries with which to seek to achieve a better equilibrium in the negotiations — as well as thanks to the inspired communication and committed leadership showed by those who presided over the whole review process from the beginning in 1993 to the very end in 1995.[163] In spite of the so-called "1995 package," which consists of a legally binding decision (NPT's indefinite extension) and two political decisions (the Strengthened Review Process along

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[163] As an instance of inspirational talk and communication skills, it is to note that the achievement of a "world without nuclear weapons" – as both an aspiration and a political strategy which would be later a signature feature in U.S. President Obama's foreign and security policy between 2009 and 2016 - was already present in Dhanapala's concluding remarks at the 1995 NPT Review and Extension Conference. See part III of the NPT Final Document, 214: https://unoda-web.s3-accelerate.amazonaws.com/wp-content/uploads/assets/WMD/Nuclear/pdf/finaldocs/1995%20-%20NY%20-%20NPT%20Review%20Conference%20-%20Final%20Document%20Part%20III.pdf.

with the Principles and Objectives for Nuclear Non-Proliferation and Disarmament) plus a resolution on the Middle East, the Conference did not produce a consensus-based Final Document. As mentioned above with regard to the Review Conferences during the first age of the NPT, this serves as a reminder that judging a Review Conference in terms of whether or not an agreed Final Document has been issued is only one way of measuring success and, sometimes, a rather poor yardstick.

Shifting attention to the analysis of the highlights contained in the package of decisions taken in 1995, several observations can be made. To begin with Decision I, titled "Strengthening the Review Process *for* the Treaty," it should be noted that it consists of only seven paragraphs. Its text is concise, straightforward and rather unambiguous. While paragraph 1 reminds states parties that the objective of the review process is to make sure "that the purposes of the Preamble and the provisions of the Treaty are being realized," paragraph 2 innovates the NPT arrangement and, indirectly, the interpretation of the NPT, by declaring that "Review Conferences should continue to be held every five years," thereby institutionalizing the review process. As regard the Preparatory Committee, states parties decided that there should be meetings held for 10 working days in the three years prior to the Conference, with the possibility

of holding a fourth session in the year of the Conference to seek to resolve all procedural issues prior to the beginning of the Conference itself.

What is more to point out is that the Preparatory Committee, especially at its final session, was also given the mandate of producing substantive outcomes in the form of recommendations. Paragraph 4 states that "The purpose of Preparatory Committee meetings would be to consider principles, objectives and ways to promote the implementation of the Treaty, as well as its universality, and to make recommendations thereon to the Review Conference." Under Paragraph 5, these principles, objectives and ways "include those identified in the decision on principles and objectives for nuclear non-proliferation and disarmament." Notably, it follows then that any agreed documents that might be adopted at future Conferences that further specify the "principles, objectives and ways" to promote implementation would be taken to bear. Finally, it was agreed to preserve the structure based on three main committees and add subject-matter subsidiary bodies, when and if appropriate. Paragraph 7 concludes by declaring that Review Conferences "should look forward as well as back. They should evaluate the results of the period they are reviewing, including the implementation of undertakings of the States parties under the Treaty, and identify the areas in which, and the

means through which further progress should be sought in the future." The role of the implementation review process was thus strengthened.

Decision I is closely linked with Decision II, which specifies the obligations states parties have to fulfill. Unlike Decision I, Decision II is more structured and looks akin to a U.N. resolution, with a set of preambular paragraphs and a series of underlined principles and objectives. After reiterating in the Preamble the two fundamental objectives of the NPT, that is to say, "the complete elimination of nuclear weapons" and "a treaty on general and complete disarmament under strict and effective international control," Decision II contains a list of 20 principles and objectives, though the distinction between the two is unclear, dealing with seven areas of universality, non-proliferation, disarmament, nuclear weapons free-zones, security assurances, safeguards and peaceful uses. Of these seven areas, the most trivial to implement are those related to universality and to nuclear weapon free zones, with particular regard to Middle East. Recurrent calls to NPT universality are frivolous and rather paradoxical as the only states that are not parties to the NPT, such as India, Pakistan and Israel, possess nuclear weapons and are virtual NWS.

At the conclusion of Conference, President Dhanapala noted that "there were no winners or losers" and that the only actual winner was the treaty itself. More importantly, he emphasized that "The permanence of the Treaty does not represent a permanence of unbalanced obligations, nor does it represent the permanence of nuclear apartheid between nuclear haves and have-nots. What it does represent is our collective dedication to the permanence of an international legal barrier against nuclear proliferation so that we can forge ahead in our tasks towards a nuclear-weapon-free world."[164] If there is one catch-all phrase to sum up the work and the overall outcome of the 1995 Review and Extension Conference, this undoubtedly is the one coined by Canada: "permanence with accountability" and that accountability stemmed from a political and, to a lesser extent, legal commitment to strengthen the review process, which focused on the institutionalization of periodic sessions of the Preparatory Committee and Review Conferences themselves.[165]

Leaving aside unrealistic expectations, 1995 marked a watershed in the existence of the NPT for two reasons. The first and most straightforward has to do with the provision in the text of the 1968 NPT of a momentous 'fact-checking and stock-tacking' conference of the

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[164] See on page 214: https://unoda-web.s3-accelerate.amazonaws.com/wp-content/uploads/assets/WMD/Nuclear/pdf/finaldocs/1995%20-%20NY%20-%20NPT%20Review%20Conference%20-%20Final%20Document%20Part%20III.pdf.
[165] Dhanapala with Rydell, 54.

parties after 25 years since the entry into force of the NPT. The second reason why 1995 has been a historic moment is that 1995 began a process by which states *could* further clarify nebulous NPT commitments, in particular those regarding disarmament, and lower informational barriers through interaction fostered by the expertise, knowledge and fresh ideas by NGOs and research centers. It is highly significant for both theoretical implications and practical effects that the last words uttered by Dhanapala before the closing of the Conference were devoted to applaud the work of non-state actors and encourage further collaboration.

The 2000 Review Conference

The 2000 Review Conference took place against a series of negative intra-NPT precedents and unfavorable extra-NPT developments. Despite an enhanced institutional and organizational setting in place for the preparatory process, both the second and third, final Preparatory Committee sessions ended without agreement and no report containing recommendations was transmitted to the Conference. Further, a set of extra-NPT events in the form of crises, and in particular the first series of Indian nuclear weapons and missiles tests rapidly followed by a series of nuclear weapons and missiles tests by Pakistan

in 1998, played their role in making for a tenser-than-usual atmosphere.

Paradoxically, the 158 states parties in attendance, observed by over 140 research institutes and NGOs, were able to produce a far-reaching, consensus-based and strongly-worded Final Document. As a matter of fact, included in the agreed-upon document there was a set of so-called "practical steps for the systematic and progressive efforts to implement Article VI and paragraphs 3 and 4 (c) of the 1995 Decision on Principles and Objectives for Nuclear Non-Proliferation and Disarmament."[166] This rather exhaustive list of objectives, now known as the Thirteen Practical Steps and worked out by a newly institutionalized political grouping within the NPT Review Conference, further specifies what NWS, in cooperation with NNWS, are expected to achieve and provides a useful framework of goals against which Article VI implementation can be evaluated. Besides repeated calls for ratification and entry into force of the 1996 CTBT and for a FMCT, rather new disarmament objectives contained in the document are: a reduction in the reliance on nuclear weapons in military doctrines and security policies, unilateral reductions of nuclear weapons, increased transparency of nuclear weapons capabilities and reduction of their operational status.

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[166] See the 2000 Final Document (Parts I and II), 14-5.

Another instance of the achievements reached at the 2000 Review Conference comes when the Final Document references Article VI. In it, there is explicitly written "an unequivocal undertaking by the NWS to accomplish the total elimination of their nuclear arsenals leading to nuclear disarmament, to which all States are committed." This is by far the strongest political statement on nuclear disarmament ever. The statement further states: "the total elimination of nuclear weapons is the only absolute guarantee against the use or threat of use of nuclear weapons." In addition, for the first time in the NPT's history, the Final Document calls for "increased transparency by the NWS with regard to their nuclear weapons capabilities and the implementation of agreements pursuant to Article VI..." Although there are no specific examples of how NWS are to fulfill this obligation, a clear precedent was set for states parties, and NNWS in particular, to demand for such endeavors.

Further, the 158 states parties in attendance also agreed on measures designed to "improving the effectiveness of the strengthened review process for the Treaty." On the whole, this document recalls past obligations agreed in 1995, but makes it explicit that both Preparatory Committee sessions and the Conference itself should consider "specific matters of substance relating to the implementation" not only of the text of

the NPT itself, but also and more importantly the two 1995 Decisions, including the resolution on the Middle East, as well as "the outcomes of subsequent Review Conferences, including developments affecting the operation and purpose of the Treaty." This is a demonstration of the legal value and political significance of consensus documents agreed at Review Conferences.

In addition, what is to underline is that the section related to the 'further strengthening' of the strengthened review process contained in the 2000 Final Document further reinforces the procedural bases by which substantive outcomes can more easily be achieved. In this regard, paragraph 6 declares that: "The States parties also agreed that the Chairpersons of the sessions of the Preparatory Committee should carry out consultations with the States parties to prepare the ground for the outcome of the sessions as well as their agenda." Similarly, paragraph 7 goes on to state that: "The consideration of the issues at each session of the Preparatory Committee should be factually summarized and its results transmitted in a report to the next session... the Preparatory Committee, taking into account the deliberations and results of its previous sessions should make every effort to produce a consensus report containing recommendations to the Review Conference."

Without a doubt, the major takeaway that emerged from the 2000 Review Conference relates to the agreed commitment to enhance accountability through comprehensive facts-based reporting. As mentioned, the 2000 Final Document included a list of 13 Practical Steps toward the full implementation of disarmament obligations contained in the NPT. Specifically, Step 12 commits all states parties to produce "regular reports on the implementation of article VI and paragraph 4(c) of the 1995 Decision on 'Principles and Objectives for Nuclear Non-Proliferation and Disarmament,' and recalling the advisory opinion of the International Court of Justice of 8 July 1996" in which the Court found unanimously that "there exists an obligation to … bring to a conclusion the negotiations leading to nuclear disarmament." Clearly, regular reporting by all states serves as a mechanism to increase transparency and reduce distrust among states. Having added a reporting obligation, accountability by all NPT states parties and responsibility of NWS to follow through their treaty-based obligations were enhanced, at least on paper.

Across the nuclear domain, and when it comes to nuclear disarmament and, by the same token, in the sphere of nuclear security — areas in which fundamental aspects of national sovereignty, state security and even survival are at stake — even minimalist approaches to reporting

should be seen as welcome initial confidence building measures, especially if reporting is as widespread and as recursive as possible.

As noted by several NPT expert analysts, the successful outcome of the 2000 Review Conference, that is, a consensus-based Final Document further clarifying what to be expected by states parties in terms of nuclear disarmament and the treaty review process, can be attributed, once again and to a great extent, to the skills and perseverance of the President of the Conference and the Chairpersons of the Main Committees and the two subsidiary bodies in working out compromises by which each and every (reluctant) delegation could benefit in some way. As a matter of fact,, Dhanapala writes that "the 2000 Review Conference illustrated the merit of good 'conference management' — especially the importance of confidential small-group negotiations, pre-Conference preparations and early resolution of procedural matters."[167] In noting how "some of the best outcomes have been achieved when Chairs, Presidents and [Conference] officials have had had to be creative and brave," long-time NPT observer and one of the most prolific writers on NPT issues, Johnson, equally underlines the importance of these negotiating tactics and management abilities.[168]

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[167] Dhanapala with Rydell, 91.
[168] See, Johnson, "Looking to 2010: What Does the Regime Need?" Archives of Disarmament Diplomacy, 2007. See also the interview conducted by Rauf with Abdallah Baali, Permanent Representative of Algeria and President of the 2000 NPT Review Conference appeared in issue 3 of the *Nonproliferation*

Clearly, in multilateral settings soft-power skills such as the use of persuasion, argumentation, transparent methods as well as the possession of unbiased knowledge are necessary, yet not sufficient, requisites for reaching successful outcomes.

What is also to stress is that at the 2000 NPT Review Conference, just as in 1995, the linkage between non-proliferation and disarmament issues was strengthened. All states agreed on the 13 Practical Steps for the systematic and progressive efforts to implement NPT's Article VI, backed by the "unequivocal undertaking" by the NWS to accomplish the total elimination of their nuclear arsenals leading to disarmament.

The 2005 Review Conference

As was the case with the lead-up to the 2000 Review Conference, Preparatory Committee meetings showcased a dismal procedural performance, which in the end prevented the final preparatory session from adopting consensus recommendations for the 2005 Review Conference. As a consequence of the failure to agree on a draft provisional agenda, a program of work and related key procedural matters, regrettably most of the time at the Review

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Review in which leadership, transparency, experience emerge as key words. See also the Press Conference by Ambassador Baali, available online at: http://www.un.org/press/en/2000/20000512.nptbrief.doc.html

Conference was devoted to accomplish the work that Preparatory Committees should have carried out in advance, thus leaving the three Main Committees with no time to complete their tasks of reviewing the preceding five years of NPT implementation and identifying future actionable steps that could be taken to advance the treaty's goals.

While challenges to the achievement of consensus or at least some sort of progress in the three pillars of the NPT have remained more or less constant throughout time, the dismal 2005 performance was the result of a poisonous combination between a backtracking on disarmament commitments as agreed to in 1968, 1995 and 2000 by NWS, as well as a reduction in non-proliferation barriers as made clear by the cases of North Korea, Iran and a broad swathe of NNWS in relation to the notorious Khan network, all of which also impacted on the peaceful nuclear energy pillar of the NPT. Paradoxically, it can be advanced that the working procedures of the strengthened review process agreed to in 1995 and further enhanced in 2000 were used by states parties to reach the opposite result, and thus weaken the NPT.

Observers and analysts have duly assessed the 2005 event against both external dynamics and internal circumstances that have ultimately led to the negative

outcome.[169] What is more, it can be well advanced that the 2005 Review Conference that went on stage at the U.N. headquarters was one if not the single worst experience in the history of the NPT review process, mainly because states parties refused to acknowledge the results achieved 1995 and 2000, so that one can speak of actual back-tracking rather than status-quo maintainability. As regards the consequences of the 2005 failure, what transpires to be a common theme across experts' assessments concerns the lack of political will displayed by officials and diplomats — a lack of political will caused by a degeneration of historical conscience and NPT-related knowledge on the part of a wide cross-section of national delegation attending the 2005 Conference. In his evaluation of the outcome, the President of the Conference, Ambassador Sergio Duarte of Brazil, remarked that "At stake is confidence in the ability of the NPT to face old as well as new challenges to the regime it instituted. Several member states came out of the Conference unconvinced that the Treaty can still provide reasonable assurance that proliferation has been checked and that progress in nuclear disarmament can be achieved … Concern over the credibility and resilience of the NPT increased in the last decade of the 1990s and particularly

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[169] For a comprehensive account of the 2005 Review Conference, see Johnson," Politics and Protection: Why the 2005 NPT Review Conference Failed," *Acronym Institute for Disarmament Diplomacy* 1, 2005. See, Simpson and Nielsen, "The 2005 NPT Review Conference," *Nonproliferation Review* 12(2): 271-301, 2005. See also, Granoff, "The Nuclear Nonproliferation Treaty and Its 2005 Review Conference: A Legal and Political Analysis," 26 2007, at: http://nyujilp.org/wp-content/uploads/2013/02/39.4-Granoff.pdf.

in the first few years of the 21st century. In many capitals and in academic circles, much thought was devoted to devise ways and means to strengthen the regime in order to face the challenges of today's world."[170]

In the words of one of the most acute and long-time observers of NPT Review Conferences, Potter, "few of these individuals [referring to Conference officials] had ever attended a Review Conference. Like their counterparts on most delegations to the 2005 Review Conference, they had very little institutional memory or first-hand recollection of the significance of crucial bargains that had been struck at prior conferences, crises that had been narrowly averted, and lessons — both positive and negative — that should have been learned. Indeed, by far the most experienced delegates at the 2005 Review Conference were those from the NGO community."[171] Similar evaluations by eyewitnesses to the 2005 debacle pervade their analyses and, as such, they speak volumes to the significance of knowledge-related factors and their impact on achieving a workable balance between nuclear non-proliferation and disarmament.

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[170] Duarte, "A President's Assessment of the 2005 NPT Review Conference," Acronym Institute, 2005. Document available at: http://www.acronym.org.uk/old/dd/dd81/81npt.htm
[171] Potter, "The NPT Review Conference: 188 States in Search of Consensus," *The International Spectator*, 3/2005, 22.

The 2010 Review Conference

In marked contrast to the preceding Conference, the 2010 NPT Review Conference had been a substantive success and a procedural accomplishment. The Conference adopted a forward-looking Final Document with references not only to prior results achieved in 1995 and 2000, and in particular the "unequivocal undertaking of the NWS to accomplish the total elimination of their nuclear arsenals" and the obligations by both NWS and NNWS to regular reporting within the review process, but also to future specific steps to further the NPT's goals. In this latter sense, the second part of the Final Document — formally known as "Conclusions and recommendations for follow-on actions" and conventionally known as the "NPT Action Plan" – was adopted by consensus.[172] Similar to the 1995 Decision 2 on Principles and Objectives for Nuclear Non-Proliferation and Disarmament and to the 2000's 13 Practical Steps, the NPT Action Plan further specifies what states parties are expected to accomplish with respect to the three NPT pillars of non-proliferation, disarmament and peaceful applications of nuclear energy.

As such, the Action Plan provides yet another yardstick against which to evaluate NPT implementation

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[172] Whereas the second part of the Final Document was agreed by consensus, the first section titled "Review of the operation of the Treaty, taking into account the decisions and the resolution adopted by the 1995 Review and Extension Conference and the Final Document of the 2000 Review Conference" only reflects the Chair's views, as it was made clear in a footnote. In this regard, see the 2010 NPT Final Document at: http://www.un.org/en/conf/npt/2010/.

progress or lack thereof. An additional reason why the 2010 Review Conference succeeded is because key players, including the U.S. and Egypt, among others, agreed over language concerning the implementation of the 1995 Resolution on the Middle East, and in particular the proposal of convening a Conference in 2012 on the establishment of a zone free of nuclear weapons and other weapons of mass destruction in the Middle East. This had been the first time that a specific timeline was ever given, thereby easing frictions and paving the way for compromises related to other clusters and issues.[173]

On the whole, it is not controversial to state that – though multilateral diplomacy is by nature a rather slow, complex and time-consuming process – 2010 witnessed the most successful negotiations since the 1995 Review and Extension Conference, with positive repercussions on global security. With the complicity of favorable external, extra-NPT circumstances, such as the election of a U.S. President Obama in 2009 determined to break away from previous unilateralist foreign and security policies, as well as thanks to positive developments within the nuclear domain itself, such as renewed attempts to break the U.S.–Russian nuclear arms reduction stalemate with the new START treaty of 2010 and the Nuclear Security Summit

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[173] However, the 1995 Middle East Resolution and ensuing implementation steps would prove at best challenging and at worst detrimental to the whole NPT review process. Indeed, as much as this controversial issue provoked the failure of the 1998 Preparatory Committee under the strengthened review process, so too had been the fate of the latest NPT Review Conference in 2015.

process, enthusiasm in the vitality of the NPT-based regime reached a zenith.

For the first time since the establishment of the NPT review process, states parties agreed to have the conventional three Preparatory Committee meetings held in Vienna, Geneva and New York, respectively. Though this might be interpreted as a rather toothless and merely procedural move — the Vienna-based IAEA devoted to such NPT issues as safeguards and peaceful nuclear energy, the Conference on Disarmament represents the go-to multilateral disarmament forum and the U.N. headquarters where multilateral high-level political and media attention is usually concentrated), symbolism matters, especially so when it comes to history and diplomacy.

On the institutional and procedural fronts, the 2010 Review Conference enhanced the NPT review process. Building on the dismal failure of the 2005 Conference and recognizing the role of NPT-related institutional knowledge, governments agreed on ways to utilize and sustain such expertise by organizing, on a voluntary basis, a group of "past and incumbent Presidents and Chairs … available for consultations with the incoming President and Chairs." In addition, the Conference "recommended that a dedicated staff officer to support the Treaty's review cycle should be added to the Office for Disarmament Affairs of the UN Secretariat" to monitor NPT

matters on a recursive basis. An additional far-reaching innovation brought by the Final Document relates to explicit references to the importance of disarmament and non-proliferation *education and knowledge-building* made in both the review part of the Final Document and in the Action Plan. Action item 22 calls all states to implement the recommendations of the U.N. Study on Non-Proliferation and Disarmament Education to help further the NPT-based regime in order to achieve a world without nuclear weapons.[174]

On the substantive front, the Conference achieved a strengthening of the normative and legal dimensions of the NPT. Indeed, both non-proliferation and disarmament norms found renewed impetus, albeit of a rhetorical and declaratory nature. With regard to the former normative category, the Final Document further improves the norm of non-use of nuclear weapons. When combined with the practice of non-use since the U.S. atomic bombings on Japan in 1945, it can be claimed that a customary legal obligation prescribing non-use of nuclear weapons or at least non-first-use thereof has crystallized.

With respect to the latter normative category, the Final Document not only reiterates past commitments to the achievement of a world without nuclear weapons, but also

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[174] See the Final Document of the 2010 NPT Review Conference, NPT.CONF.2010/50. Vol. I. Action 22. See also the 2002 U.N. Study on Non-Proliferation and Disarmament Education, in General Assembly Resolution A/57/124. Document available at: http://undocs.org/A/57/124.

references for the first time the catastrophic humanitarian consequences of any nuclear weapons use, thereby reinforcing the moral opprobrium and illegality of any such use. Significantly, greater emphasis was placed on proposals to stigmatize nuclear weapons and reduce their salience; opposition to weapons modernization and the need for comprehensive negotiations on some kind of nuclear ban treaty similar to what has been achieved through the Biological and Chemical Weapons Conventions.

Be as it may, Johnson concluded her assessment as follows: "Despite the more constructive context and the substantial proposals and debates on all aspects of nuclear disarmament, security, and proliferation, the final document was unable to go much beyond reaffirmations, exhortations, and language agreed in 1995 or 2000."[175] Clearly, while it is true that non-proliferation and disarmament norms, as well as the NPT review process itself, had been somewhat strengthened on paper, the litmus test for NPT effectiveness does not lie in rhetorical and declaratory positions, but rather in routinized and good-faith implementation. As such, the timeframe between the conclusion of a Review Conference and the beginning of a new one can reveal whether and to what extent states parties feel committed to implementing agreed commitments.

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[175] Johnson, "Assessing the 2010 NPT Review Conference," *Bulletin of the Atomic Scientists*, 2010, 8.

As in previous post-Cold War Review Conferences that ended with a consensus Final Document, so-called "conference management" skills and problem-solving tactics exercised by the President and Main Committee's Chairs proved fundamental in leveling off polarized policy positions among key states and groups thereof. All in all, coupled with the political willingness of the U.S. toward a positive outcome that would reinforce President Obama's all-inclusive strategy of a world without nuclear weapons, the 2010 Review Conference met the expectations of all the states parties involved, including — albeit to a lesser extent — those of the NGO community.

The 2015 Review Conference

By the time of the review cycle for the 2015 Review Conference, the tone of enthusiasm and optimism among states regarding the NPT-based regime had vanished under unfortunate real-world developments. Even though the first, ten-day-long Preparatory Committee meeting held in 2012 in Vienna carried out its tasks in a rather positive atmosphere with the Chair's concluding factual summary repeating language contained in the 2010 Final Document and stressing the importance of implementation of the Action Plan, in actuality all states were in a wait-and-see mode, looking forward to the expected 2012 Conference

on the establishment of a zone free of weapons of mass destruction in the Middle East. As time passed, it became all too clear that fundamental NWS–NNWS rifts had resurfaced.

The second session of the Preparatory Committees took place against a background of a number of unfavorable circumstances. A conference to discuss a free zone in the Middle East could not be convened before the end of 2012, and no future date was ever set. North Korea tested missiles in December 2012 and conducted a nuclear test the following February. As was the case with Iran, negotiations over the North Korean nuclear program remained stuck. In addition, the NWS refused to attend a series of conferences on the humanitarian consequences of nuclear weapons held in Oslo in 2013, Nayarit and Vienna in 2014. Within this latter conference on the moral and legal consequences of any use of nuclear weapons, which was attended by over 150 states, the host country of Austria issued a so-called "Humanitarian Pledge" in which "effective measures to fill the legal gap for the prohibition and elimination of nuclear weapons" were called upon.[176]

As a consequence of these external events, the second session of the Preparatory Committee that ended in early May could not but end in disarray. During its work,

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[176] For a background on it and related documentation, see http://www.icanw.org/pledge/.

Egypt announced it was withdrawing from the Preparatory Committee because of the lack of progress toward convening a Middle East conference. The states parties to the Non-Aligned Movement and the Arab League also expressed frustration with the overall process.

Despite this, an innovation at this second meeting was a discussion concerning possible next steps to advance the NPT review process. Suggestions in this respect included shortening the duration of the first two Preparatory Committee meetings and holding meetings in cities and countries other than Vienna, Geneva and New York; transitioning from summary records to digital audio recordings; making better use of technology and webcasting, as well as enhancing interactive discussions and direct engagement with non-governmental organizations. As was the case in 1999, 2004 and 2009, the final preparatory meeting did not produce substantive recommendations for the Conference. However, the Chair issued his non-consensus report under his own authority with a note explaining that: "this document reflects the Chair's assessment of the elements on which the Preparatory Committee may have been able to evolve convergence sufficient to convey the following recommendations to the review conference in a spirit of flexibility and compromise." In sum, the three preparatory meetings did not reveal significant improvement of the

NPT's goals. Thanks in large part to the constant efforts by NGOs to track progress with the 2010 Action Plan, it become obvious that implementation related to nuclear disarmament lagged far behind than that related to non-proliferation and the peaceful uses of nuclear energy.

The 161 states parties attending the 2015 Review Conference could not reach consensus on a Final Document. By all expert analyses, this lack of substantive agreement can be attributed to the discussions around the establishment of a zone free of nuclear weapons and other weapons of mass destruction in the Middle East, an issue that has been linked to the NPT since the "Middle East Resolution" adopted at the 1995 NPT Review and Extension Conference. This single issue sparked a lot of controversies and heated debate among states parties, with the result of further polarizing the negotiating positions of key states and groups thereof. As Rauf has summarized, responsibility for its collapse can be attributed to "the inflexibility of delegations, improper implementation of the strengthened review process and an absence of leadership." The author goes on to observe that: "…dangerous new tendencies and developments are on the rise. These include an unchecked resurgence in the salience of nuclear weapons in European security, setbacks for reducing and eliminating nuclear weapons, increasing discord both between and among the NNWS and NWS,

deteriorating confidence in the NPT among Arab states parties, and an overall loss of credibility for the nuclear disarmament pillar of the NPT."[177] Moreover, the movement on the catastrophic humanitarian consequences of nuclear weapons, originally developed at the margins 2012 session of the Preparatory Committee, reinforced disarmament cleavages between nuclear haves and have-nots, thereby causing further drifts, inflexibility and actual fear on the part of NWS and some of those NNWS that still rely to some extent to U.S. nuclear weapons for their survival.

Regrettably, as much as the thorny issue of creating the conditions for the establishment of a zone free of catastrophic weapons in the Middle East had reinforced centrifugal forces, so too might be the case with the recent move to sidestep the NPT and its review process in favor of separate negotiations over a legally binding treaty banning nuclear weapons, which started in 2017. In the end, increased frustration with the NPT review process and fragmentation among NPT states, which could eventually lead to disintegration of the NPT-based regime, might well be in the offing. It is against this bleak and worrisome background that political leaders, diplomats and the military should bear in mind Einstein's original quote: "The unleashed power of the atom has changed everything

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[177] Rauf, "Assessing the 2015 NPT Review Conference," in Dhanapala and Rauf, 208.

save our modes of thinking, and we thus drift toward unparalleled catastrophe."[178]

Preliminary findings

Informed by empirical studies and analyses carried out by scholars and nuclear policy practitioners, this chapter has analyzed the establishment phase of the NPT through its negotiating history and its development through the institution of review conferences in order to identify those factors that theories of international cooperation and regime approaches emphasize with regard to the theme of institutional effectiveness. Understanding the problems surrounding NPT negotiations in the 1960s and its present-day configuration is key in order to frame potential remedies for a more effective NPT. Based on the sources consulted, this concluding section stresses the relevancy of knowledge-based sources of effectiveness, especially during the second age of the NPT, that is, from the 1995 NPT Review and Extension Conference.

A combination of power- and interest-based factors played a crucial role in the establishment phase and seems ultimately to be better equipped at explaining the creation of the NPT. This can be extrapolated from the

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[178] Quote taken in George Lee Butler, "We Still Drift toward 'Unparalleled Catastrophe'," *New York Times,* 23 January 1997. Available at: http://www.nytimes.com/1997/01/23/opinion/we-still-drift-toward-unparalleled-catastrophe.html.

accounts of Shaker and Johnson, according to which NPT negotiations were 'controlled' by the U.S. and the USSR. In addition, using counterfactual reasoning, the NPT text does preserve, rather than abolish, the status of the five nuclear-armed states, thus indicating a prominent role played by the rational self-interest of a few powerful states. However, realist or power-based theories of international regimes focusing on the distribution of material resources, and the theory of hegemonic stability in particular, cannot fully explain the establishment of the NPT. As observed by Smith, during the NPT negotiation phase and up until the late 1970s and early 1980s, "the U.S. began to suffer from the classic symptoms of a hegemon in decline: rising costs of system maintenance, a diffusion of technology and a level of consumption that outweighed investment."[179] Key propositions of hegemonic stability theory, such as the presence of a powerful state responsible for regime creation and the unfeasibility of collective action in the absence of hegemonic power, are partly disproved.

External galvanizing factors, be it the end of the Cold War, the discovery of clandestine weapons program or the revelations of the capabilities and intent of malevolent non-state actors, matter during the NPT's implementation phase. At the same time, these same factors

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[179] Smith, "Explaining the non-proliferation regime: anomalies for contemporary international relations theory," 269.

work in the other direction and lead to explanations as to why periodic stock-tacking NPT reviews have ended in disarray. Such exogenous dynamics, and particularly the occurrence of shocks and crises, cannot be easily transposed into the categories, or black boxes, of power, interest and knowledge. However, the propensity for learning from both positive and negative crises is correlated with intra-regime, intra-NPT dynamics. The propensity to absorb shocks and turn crises from negative to positive opportunities depends to some extent on engaging creative and energetic personalities and secretariats as well as on initiating the right kinds of programmatic activities.

Endogenous factors provide cogent explanations for the development and further refinement of NPT non-proliferation cooperation than power-based explanations. Institutional design is an important aspect and even more significant is adaption in light of changing circumstances. In essence, the design of adequate implementation review processes can provide the foundations within which a less costly (and less damaging) learning occurs by making parties better understand and more effectively address common (in)-security problems. In conclusion, as the analysis of the rise and evolution of the NPT attests, knowledge-based theoretical approaches and, by the same token, policy prescriptions configured as

to maintain and foster expertise and education have been and will be more effective in the long-term.

A further key take-away emerging from this analysis and that can be also applied to any other phenomena of multilateral cooperation is that negotiations at the international level do not actually stop with the signing of a specific agreement, but rather continue into the phase of implementation and its review. What essentially demarcates negotiations to establish a working arrangement from implementation and post-implementation reviews of the established arrangement is the accumulation of information and experience, that is, the steady build-up of exogenous and endogenous events over time. Even if a product of a time when nuclear was considered a panacea technology and even if a relic of a by-gone era when bilateral relations between the two superpowers dominated international politics, given that the nuclear power is here to stay, the NPT maintains relevancy as a framework institution providing baseline guiding principles. Those states having or wanting to have nuclear power have to accept a series of adaptive inspection measures while those states possessing nuclear weapons have to dismantle their arsenals and proceed together to nuclear disarmament.[180]

In order to heal long-standing and deeply rooted pathologies of NPT and its arrangement, policy frameworks

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[180] In both instances, and especially in the latter case, some sort of multilateral monitoring and verification arrangement is needed and yet to be established.

that create, maintain and foster expertize, education and experience and that establish processes by which these very knowledge-based factors can thrive are needed. As much as there have been established global and regional Centers of Excellence dealing with nuclear security and counterterrorism, it would be high time to develop NPT Centers of Excellence, so as to maintain and foster institutional memory and unbiased knowledge of this cornerstone arrangement for future generations. At the same time, it should be acknowledged that the NPT has been surpassed by both extra-NPT and intra-NPT events. In addressing real-world nuclear proliferation, the action seems to lie elsewhere. The recent growth of non-proliferation arrangements, including U.N. Security Council Resolution 1540, attests to it.

Chapter IV

The U.N., the Security Council and the 1540 Regime

Setting the context

In assessing the record of concerted action on the management of non-proliferation problems and on the mitigation of associated proliferation risks, the U.N. system represents the classic starting place. Empirical work on international regimes is ripe with studies of particular U.N.-centered activities dealing with common problems, including atomic weapons and weapons-usable materials and technology.[181] As one of the most authoritative instances of traditional state-based and state-centric multilateralism, it stands as the most encompassing endeavor to institutionalize within a loose framework of rules and practices. Though the universe of cases of multilateral non-proliferation is vast, U.N.-centered institutional processes and governing mechanisms are of critical importance. Their import is a discriminant characteristic over other non-proliferation arrangements.[182]

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[181] See, for example, Young, *International Cooperation: Building Regimes for Natural Resources and the Environment*, 1989. In it, a case study addressing regime creation efforts to solving nuclear-accident problems is provided. See also, Avenhaus et al. *Containing the Atom*, 2002. On the United Nations and nuclear-related regimes, see Boulden et al. *The United Nations and Nuclear Orders*, 2009.

[182] On issues of treaty interpretation, judicial bodies such as the ICJ but also political entities such as the General Assembly and the Security Council play a prominent role. The development of law and diplomacy has taken place within the U.N.-centered international system since 1945. On the political

In the complex formation of international regimes, the General Assembly and the Security Council have played stepping stone roles. Agreement-making processes performed under its banner include summits at highest political and ministerial levels, periodic diplomatic negotiations, treaty review processes, implementation and monitoring agreements, technical verification arrangements, as well as the use of sanctions and other coercive acts short of warfare. Their objective and perceived (institutional) legitimacy, representation and crosscutting reach are unmatched by other arrangements. However, if not skillfully developed and implemented, these same features and procedures can constitute stumbling blocks. At the same time, a number of extra-U.N. bodies have emerged, especially since the onset of the new century. Sometimes, however, less onerous, voluntary forms of cooperative interaction are pursued. And sometimes, no cooperation at all takes place. In his John Holmes Memorial Lecture, Williams provides a sobering account by noting how "the shadow of power politics still haunts the U.N.'s ability to act impartially" and that today's "global governance … is in a state of deep crisis."[183] Other scholars stress that the crux of the U.N. is that it does not operate as truly 'united' nations, but rather as a chessboard for

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side, this system has scored better than any prediction about the fall of the states-based system based on a loose framework of common principles and rules.

[183] Williams, John Holmes Memorial Lecture, in *Global Governance* 22 (2016), 32-33.

governments and powerful coalitions thereof. As to the Security Council, its composition and modus operandi have been pinpointed as stumbling blocks to a better performing organization.[184]

Security Council Resolution 1540 warrants attention because its establishment phase as well as its further refinement through implementation stages seem to defy arguments of institutional rigidity and power-based explanations. By drawing on a growing body of secondary sources as well as on information gained from participant observations,[185] interviews and correspondence with U.S. government officials, independent consultants of the Group of Experts supporting the Security Council and its 1540 Committee[186] and document analysis,[187] this chapter unfolds in four sections. The first overviews U.N.-centered nuclear activities by focusing on efforts spearheaded by the General Assembly and the Security Council. Based on

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[184] Szasz, "The Security Council Starts Legislating," *American Journal of International Law* 96(1): 901-05, 2002; Talmon, "The Security Council as World Legislature," *American Journal of International Law* 99: 175-93, 2005; Rosand, "The Security Council as 'Global Legislator': Ultra Vires or Ultra Innovative?" *Fordham International Law Journal* 28(3): 542-90, 2004.

[185] Workshop titled "Non-Proliferation in a Non-Compliant World: Rethinking U.N. Security Council Resolution 1540" and co-sponsored by the Stimson Center and the Washington Foreign Law Society. See also, "Towards the 2016 Comprehensive Review: Former experts assess UNSC Resolution 1540," *Institute for Security Studies,* 2016.

[186] Numerous interactions with professionals were carried out. They included former U.S. officials within the Department of State, members of the 1540 Committee's Group of Experts as well as scholars and experts. The first round of interviews was conducted in February 2016 in Washington with senior-level officials from the State Department and the Department of Energy's National Nuclear Security Administration, and a number of experts at the Arms Control Association, the Center for Strategic and International Studies, the Partnership for Global Security and the Nuclear Threat Initiative. The second cycle took place in June 2016 in New York with the Coordinator of the 1540's Group of Experts and two other consultants partaking in the Expert Group. A list of the interviewees that have agreed to collaborate is provided at the end of the study.

[187] In particular, see the records of the open session of the Security Council on 22 April 2004, and those regarding its actual adoption on 28 April 2004, documents S/PV.4950 and S/PV.4956, respectively.

existing published materials and accounts, such digression is warranted by the need to contextualize prior cooperative work and capture the related import. The second section delves into the gestation and negotiation periods, looking at the nature of the issues raised and how these matters were tackled. In the third section, attention shifts to its operational evolution by focusing on implementation and its monitoring stage to scrutinize the ways in which 1540-centered strategies have helped or hindered the achievement of the Resolution's goals.

Nuclear multilateralism and the United Nations

U.N.-sanctioned nuclear engagement has a rich and long background, beginning 70 years ago in 1946.[188] Similarly, the first approaches to (nuclear) non-proliferation go as far back as 1946 and precisely to the U.S. Baruch Plan, the "Atoms for Peace" speech delivered by U.S. President Eisenhower at the General Assembly in 1953 and, relatedly, the establishment of the IAEA in 1957.[189] Though international controls through binding standards and cooperative mechanisms were lacking, the security surrounding nuclear weapons, delivery systems and sensitive materials was contemplated as not only a strict

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[188] Resolution 1 (I), "Establishment of A Commission to Deal with The Problem Raised by The Discovery of Atomic Energy." 24 January 1946.

[189] For historical overviews of early non-proliferation, Potter, *Nuclear Power and Nonproliferation: An Interdisciplinary Perspective*, 1982; McGeorge Bundy, *Danger and Survival*; Pilat, *Atoms for Peace: A Future After Fifty Years?*, 2007; Scheinman, *The IAEA and World Nuclear Order*, 1987.

national prerogative and responsibility, but also those treaties and post-treaty agreements could not provide for adequate responses.

At the turn of the new century, the combination of a new type of proliferation in facilitating the spread of weapons of mass destruction challenged the NPT-based non-proliferation regime on several grounds. While most accounts of non-proliferation efforts attest that the preeminent political and decisional organ of the U.N. system, namely the Security Council, remained paralyzed by political differences among its five permanent, veto-wielding members and Cold War dynamics, the General Assembly devoted significant time and effort on narrower (nuclear) arms control and non-proliferation.[190] Besides a short period between 1945-48, up until the 1990s actions led by the General Assembly and the Security Council remained rather dormant in narrower (nuclear) arms control and non-proliferation dimensions.

The text of the founding political and legal document of the U.N. architecture does of course not reference either (non)-proliferation, nor nuclear weapons. The Charter's gestation and negotiations predate the first and only use of nuclear weapons in history. However, given the paradigmatic shift brought by the most destructive technology, engagement and negotiations emerged rather

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[190] For technical and legal overviews of the U.N., see Conforti, *Le Nazioni Unite*, 2000; Cassesse, "The Role of the United Nations," in *International Law*, 2005.

quickly under U.N. auspices. The regulation of armaments is intrinsic to the raison d'être of the U.N. and fundamental to the maintenance of international security. Since the discovery of atomic energy in the midst of World War II and the advent of the nuclear weapons age in 1945, cooperation has been a consequential, almost inevitable development. The state-based international system of states, convened at the General Assembly in 1946, devoted its very first session and very first negotiating efforts to the adoption of a resolution to address nuclear problems in a bold, comprehensive and forward-looking fashion. Through its first resolution, the General Assembly established the Atomic Energy Commission (AEC). With Resolution 1, the AEC was mandated to "inquire into all phases of the problem" of atomic energy.[191] Specifically, it was tasked to make proposals for the extension of the benefits of nuclear energy to all nations, for the control of atomic energy for peaceful purposes through a system of nuclear safeguards and, thirdly, for the elimination of nuclear armaments.[192] The three principles undergirding the regime, the three-pillar structure of peaceful nuclear energy, non-proliferation and disarmament, derive from General Assembly Resolution 1 of 1946. Further, in its first session the General

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[191] Resolution 1 (I), "Establishment of A Commission to Deal With the Problem Raised by The Discovery of Atomic Energy." 24 January 1946, paragraph 5.
[192] See Paragraph 5.

Assembly adopted Resolution 41, titled "Principles governing the general regulation and reduction of Armaments," in which it recommended the Security Council to consider negotiations aimed at the establishment of an "international system of control and inspection," including on the "*prohibition of atomic and all other major weapons adaptable now and in the future to mass destruction* and the control of atomic energy to the extent necessary to ensure its use only for peaceful purposes."[193] Ever since 1946, the "weapons of mass destruction" (WMD) terminology entered multilateral disarmament diplomacy and the term's import was so conceptualized as to point to a special classes of weapons and associated systems deemed to require, by necessity, cooperative steps to achieve the goal of prohibition, regulation and reduction. [194] To this day, no consensus exists at national and even across different government ministries and departments as to which categories the term should refer to.

The term "WMD" acquired a new resonance after the end of the Cold War at a time when several fault lines embedded in key non-proliferation treaties, including the NPT, were exposed in light of novel threat dynamics. The non-proliferation policy earthquake was provoked by a novel form of proliferation that was induced by states of

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[193] Resolution 41 (I), "Principles Governing the General Regulation and Reduction of Armaments." 14 December 1946, paragraph 4.
[194] See, for example, Carus, "Defining "Weapons of Mass Destruction," 2012.

secondary or no concern or even by states unbound by existing regimes in collusion with a heterogeneous group of non-state actors ranging from for-profit smugglers, corrupted officials, middleman, trading companies to terrorist organizations.

Notably, the earliest and most authoritative opinions concerning nuclear security and nuclear terrorism dates back to the dawn of the nuclear age in 1946. It originates with Robert Oppenheimer — the Scientific Director of the secret, U.S.-led Manhattan Project and the designer of the first atomic weapons. Specifically, to the question of whether a nuclear weapon being smuggled into the U.S. could be detected, Oppenheimer's telegraphic reply was that the only way to do it properly would be to open every container and suitcase "with a screwdriver."[195] The take-away points emerging from the hearing of the foremost 'nuclear insider' in history was that the United States (or for that matter any other country) could not solely rely on technology, such as detection equipment and export controls. Trafficking can go undetected and broader nuclear smuggling episodes could not be ruled out in principle, unless states were willing to eliminate

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[195] Coll, "The Unthinkable: Can the United States be Made Safe from Nuclear Terrorism?" *New Yorker*, 12 March 2007. See, also, Bird, "How to Keep an Atomic Bomb from Being Smuggled Into New York City? Open Every Suitcase with a Screwdriver." Book Review of *Almighty: Courage, Resistance, and Existential Peril in the Nuclear Age* by Zak, *The New York Times*, 5 August 2016; Bunn, "Securing the Bomb 2007," 2007.

associated infrastructure and completely and verifiably disarm.[196]

The far-reaching conclusions reached in the 1940s by the Scientific Director of the Manhattan Project remain not only valid to these days, and perhaps even more so today than it was some 50, or even 20 years ago, but are also resembling similar controversial issues puzzling policymakers and experts alike. Initially, Oppenheimer's advice did not fall on deaf ears, and the thrust for handling the nuclear weapons problem right after WWII called for the complete abolition of nuclear weapons globally. Interestingly, this is the principle underpinning both the U.S. Baruch and the Soviet Gromyko Plans, both of which were put forth in 1946 before the onset of the bipolar conflict and the Cold War. However, while both the Soviet Union and the U.S. agreed in principle to the goal of nuclear disarmament, insurmountable differences on the means to achieve it prevailed. Despite the adoption by the General Assembly in 1948 of what was then rebranded the "U.N. Plan" for the control of nuclear energy, any hope for averting vertical and horizontal proliferation were soon dissipated by the nuclear weapons tests carried out by the Soviet Union in

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[196] After 70 years, this is exactly where the devil is. Verification of weapons dismantlement, elimination and minimization of weapons-usable materials, along with supply- and demand-side controls of related items and technology are challenging tasks. Therefore, a premium is put on devising implementation-promoting strategies and following transparency-enhancing processes that can lead to increased and informed knowledge about the status of nuclear programs.

1949, the U.K. in 1952, France in 1960 and later China in 1964.[197]

The mastering of nuclear technology and the statements released by these four countries concerning their possession of nuclear weapons moved multilateral negotiations from early comprehensive disarmament efforts to a more restricted focus on halting the spread of weapons to additional countries while at the same time locking in the privileged status of those five countries — the so-called NPT's "nuclear weapons states". In other words, it was no longer a matter of eliminating nuclear weapons tout court, but of prohibiting them to all other states, while legitimizing their existence to a special group of states, provided they would negotiate and implement "in good faith" arms control, non-proliferation and disarmament agreements, such as the CTBT or the FMCT (both of which treaties remain in a legal and political limbo), and eventually proceed to verifiable disarmament.

A review of early nuclear non-proliferation efforts by the General Assembly reveals they were mostly disarmament-oriented. Indeed, its Charter institutionalizes multilateral disarmament diplomacy. Article 11 states that: "the General Assembly may consider the general principles of cooperation in the maintenance of international peace and security, including the

[197] Cirincione, *Bomb Scare,* 2007, 17-8.

principles governing disarmament and the regulation of armaments."[198] The General Assembly partly succeeded in fulfilling its role under Article 11. Both in its plenary sessions and through its subsidiary bodies, the General Assembly, less exposed to the cleavages of great power politics in comparison with the Security Council of the time, passed several resolutions that paved the way for the construction of non-proliferation regimes. Examples are the Geneva-based Ten-Nation Committee on Disarmament of 1960, the Eighteen-Nation Disarmament Conference of 1962 — importantly, this is where negotiations over the NPT were conducted — the Conference of the Committee on Disarmament of 1969 and, as a result of the first Special Session on Disarmament of the U.N. General Assembly, the Conference on Disarmament in 1979.

Notably, the three first-order multilateral treaties concerning nuclear, chemical and biological weapons have been endorsed or adopted by General Assembly resolutions. Besides the NPT, the General Assembly has blessed other cornerstone multilateral non-proliferation treaties. They include the 1972 Biological Weapons Convention, the 1993 Chemical Weapons Convention and the 1996 CTBT. They were all negotiated at the Conference of Disarmament — the single multilateral disarmament forum at the disposal of the international community. When it comes to the

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[198] Article 11, paragraph 1, of the Charter of the United Nations.

intersection of non-proliferation and terrorism, the General Assembly still acts as one of the most important mediums through which non-proliferation governance innovation can initiate. As we shall see, initial bids and proposals for what would soon emerge as Resolution 1540 on the threats posed by non-state actors in the realm of WMD were first publicly announced at General Assembly meetings by U.S., British, French and Russian representatives in September 2003.

Shifting attention to Security Council activities, it should be emphasized that historically — in spite of Article 26 of the Charter, which gives the Security Council the authority to formulate concrete "plans for the establishment of a system for the regulation of armaments"[199] — its engagement with WMD has been occasional and its impact on the course of multilateral non-proliferation efforts close to nothing, and at least until the beginning of the new century. What is more, resolutions adopted by the Security Council followed a common pattern of addressing specific state-centered and time-limited threats with the ultimate aim to respond to, rather than prevent, peace and security threats such as WMD proliferation. The actual negotiations and implementation of binding agreements, and the

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[199] See Article 26 of the U.N. Charter.

establishment of the nuclear non-proliferation regime wholly understood, occurred outside the Security Council.

Yet, a further important and unique toolkit at the disposal of the Security Council — as the ultimate international political authority on issues of war and peace — is the recourse to Chapter VII of the U.N. Charter.[200] Measures called for in Chapter VII resolutions are automatically international law of the highest order for all states and all states have a responsibility and a duty to follow through the binding obligations set forth. Resolution 687, adopted in 1991, illustrates the first and foremost example of Security Council's use of Chapter VII with regard to non-proliferation. In it, the Security Council imposed specific weapons-related prohibitions on Iraq with regard to its possession and threatened use of chemical and biological weapons and materials, as well as concerning the undeclared presence of nuclear weapons-related activities and technologies in violation of NPT obligations. Resolution 687 also included measures geared toward the prohibition of certain delivery systems and imposed on Iraq the obligation to cooperate with an ad-hoc U.N. weapons inspection regime to verify compliance. What is more, the resolution authorized a mandate for a broad range of sanctions and export controls. Ultimately, aside

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[200] On Chapter VII powers under a legal perspective, Boisson de Chazournes and Sands, *International Law, the International Court of Justice and Nuclear Weapons*, 1999. See also Joyner, *International Law and the Proliferation of WMD*, 2009.

from resolution on Iraq, in the first six decades of its work the Security Council managed to pass a nuclear-weapons-related resolution every ten years.[201]

Before the turn of the new century, Security Council non-proliferation activities have been quantitatively and qualitatively scarcer in comparison to the work carried out by the General Assembly and its subsidiary and implementing bodies. Further, the crux of the former focused on enforcement aimed at the restoration, rather than prevention, of country-specific and time-limited threats posed by WMD. Resolutions highlighted measures to halt (nuclear) non-proliferation to the detriment of disarmament commitments. It also stressed a reactive, case-by-case approach to dealing with security threats, as opposed to a pro-active and thematic method, which will be a signature feature of Security Council's modus operandi, starting with the first-ever Security Council Resolution to make a connection between unconventional, 'living threats' of terrorism and proliferation, that is, Security Council Resolution 1373 adopted in September 2001, and reaching the apex with Resolution 1540 adopted in 2004.[202]

To conclude, the General Assembly has been the central forum and medium through which states and regional groups thereof started formal discussions on nuclear

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[201] See, Joyner, 2009, 175-6.

[202] Security Council WMD activities before the turn of the century stressed country-specific programs, particularly those of Iraq, North Korea, India and Pakistan, and established ad-hoc binding measures and time-limited obligations. Addressing threats that are basically open-ended and volatile in nature, such as terrorism and non-state proliferation clearly requires a similar change in strategy and response.

weapons and proliferation matters, which led to the construction of a state-centric and government-oriented control regime based around the NPT and its review conferences. However, since the passage of the very first resolution in 1946, the achievements produced through the efforts of the General Assembly have been modest. Overall, the increasing diversification of multilateral state-led action and the division of non-proliferation labor has impacted on U.N.-centered efforts. When it comes to nuclear security, multilateral cooperative engagement has mostly emerged and evolved through informal governance approaches in the form of voluntary agreements between like-minded partners.

In addition, while the relevance and impact of the U.N. has been greatest in driving states to agree on an agenda for taking non-proliferation forward, its potential has been smallest in implementation and, needlessly, in the enforcement.[203] While binding agreements are necessary for establishing a set of minimum required standards of verifiable compliance and punishable non-compliance, they are not per se sufficient for a comprehensive response. Further, what is also to highlight is that there is a common thrust across General Assembly resolutions over the course of time. This refers to the goal of nuclear

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[203] The same seems to hold true in studies on epistemic communities and civil society in international security. See also Peterson, "General Assembly majorities on the preferred nuclear order," in Boulden et al., *The United Nations and Nuclear Orders*, 52-72.

disarmament. Its verification, and especially the ways in which to reduce secrecy and increase transparency, is all the more important in today's threat environment and technological sophistication than it ever was in history.

The truly universal membership of the General Assembly, its periodic meetings and its political mandate on arms control and disarmament issues contribute a great deal, over the longer term, to the gradual build-up and further evolution of the principles and norms governing cooperation on non-proliferation. It is thus not quite conforming to reality to argue, as some have pointed out, that the piling up of resolutions has resulted in "the overall failure of the U.N. to play a meaningful role in efforts to build a comprehensive multilateral normative system on arms control and non-proliferation."[204] Security Council Resolution 1540 mentions the dual reinforcing normative character of non-proliferation and disarmament.

Regarding effectiveness, it is to note a preoccupation by practitioners and, to a lesser extent, by non-proliferation experts to look at the broader status of the non-proliferation regime in terms of legal binding-ness and, consequently, running the risk of neglecting to consider novel approaches. The galaxy of non-proliferation cooperation includes several other examples within both NPT-plus and extra-NPT cooperative measures, scientific

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[204] Joyner, 173 and Peterson, 68.

collaboration, business and private industry and, in the final analysis, the drivers that make institutionalized multilateral non-proliferation cooperation both manifest and sustainable over time are not only of a legal nature, and may not even be of a strictly political dimension.

The Security Council instead has shown greater cohesion and a willingness to tackle emerging threats in novel ways, beginning with Security Council Resolutions 1737 dealing with terrorism prevention and 1540 dealing with non-state proliferation prevention of "chemical, biological and nuclear weapons, their means of delivery and related materials." As such, it is to underline that the controversial WMD term is not mentioned in Resolution 1540. The Resolution avoids terminological disputes and cognitive dissonances by referring to, and providing a definition of, "non-state actors."

Since its inception, the U.N. has stressed the mutually reinforcing link between non-proliferation and disarmament as a multilateral objective. The elimination of nuclear, chemical and biological weapons has surged — as a matter of practice — to a fundamental principle of the international community, and it was the subject of the first General Assembly resolution. After the decisional impasse caused by Cold War rivalries among the five veto-wielding members of the Security Council and formally acknowledged NPT's NWS started to fade away. The first-

ever meeting of the Security Council held at the level of heads of state and government produced a Presidential Statement in which it was declared: "the proliferation of all weapons of mass destruction constitutes a threat to international peace and security." Notably, a reference to nuclear disarmament was added. The Presidential Statement underlined — as Security Council Resolution 1540 would later reaffirm 12 years later — "the need for all States to fulfill their obligations in relation to arms control and disarmament."[205] It is then within these political, legal, normative and institutional milieus that the genesis and negotiations of Resolution 1540 should be examined. In essence, one should look at the question of nuclear security and non-state threats within the framework of state non-proliferation and disarmament efforts. Understanding how the decision-making process unfolded forms the first step in answering why 1540 Resolution arrangement has moved from a contentious policy measure to a widely endorsed success story.

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[205] The first and second paragraphs of the preamble of Resolution 1540 recall the 1992 Statement. While the first affirms that "proliferation of nuclear, chemical and biological weapons, as well as their means of delivery, constitutes a threat to international peace and security," the second paragraph, by explicitly recalling the 1992 Presidential Statement, reaffirms "the need for all Member States to fulfill their obligations in relation to arms control and disarmament and to prevent proliferation in all its aspects of all weapons of mass destruction."

Toward 1540: genesis and institutional precursors

More than a decade after its passage in 2004, no conclusive evidence exists as to the framer(s) of Resolution 1540. While the draft text to be negotiated was co-sponsored by four permanent members of the Security Council, that is, the U.S., the U.K., the Russian Federation and France along with Romania and Spain as rotating Security Council members, its gestation period remains shrouded in opacity. As Cupitt, has noted, "No definitive work on the origins of UNSCR 1540 exists … Tackling those questions requires interviewing the many participants in this creation story and seeing the documents they saw, many of which remain classified."[206] Building on this note, a further comment should be emphasized when tracing its origins. Pointing to particular, individual accounts and factors without grasping the background within which the history of 1540 has unfolded can lead to imperfect explanations.

While an overwhelming majority of open-source material points to attention-riveting external events that catalyzed public and, most critically, government attention, including mass terrorist attacks such as 11 September 2001 and the unraveling of illicit trafficking networks such as the A.Q. Khan proliferation enterprise in

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[206] Cupitt, "Capstone and Mortar: Notes on the creation of UNSCR 1540," *1540 Compass* (6), Special Issue on "the Tenth Anniversary of the Adoption of UNSCR 1540," 5.

2003, the establishment of the resolution is interlocked with developments within non-proliferation regimes, suggesting multi-causality and the presence of additional intervening factors.

Certainly, one can advance that several other events, such as the live-broadcasting of the collapse of the World Trade Center in New York City, the terrorist attacks in Moscow, the trafficking and seizures of illicit cargo shipments and the train bombings in Spain, induced wider buy-in and acceptance by those states that were initially doubtful of the new instrument and even by those states that described the measures called for in the draft text as reflecting longstanding cleavages, such as spurious either-or, North versus South, nuclear armed versus non-armed arguments. External events however did not alter a pre-existing and crosscutting evaluations of, and opinions about, the capacities of existing instruments to address old-fashioned problems in a radically modified context.

Notwithstanding the problem of secrecy and opacity surrounding Resolution 1540, the 'living' sources and 'published' sources consulted indicate the United States as initiator of the process,[207] and specifically the White

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[207] Semmel, "UN Security Council Resolution 1540: The U.S. perspective," Chatham House, 2004. The earliest and yet most detailed accounts of the drafting process and the textual evolution of Resolution 1540 is provided by Datan, "Security Council Resolution 1540: WMD and non-State trafficking," *Disarmament Diplomacy* 79, 2005. Draft versions of Resolution 1540 are unavailable. In addition, see Oosthuizen and Wilmhurst, "Terrorism and Weapons of Mass Destruction: United Nations Security Council Resolution 1540," Chatham House, 2004. The first book-length treatment of Resolution 1540 dates to 2007 and is edited by Bosch (a former member of the 15440 Experts Group) and van Ham. See, *Global Non-Proliferation and Counter-Terrorism Efforts: The Impact of UNSCR 1540*. In particular, see

House headed by former U.S. President George W. Bush. In an interview with a former U.S. government official involved in the drafting process, it arises that the co-sponsored draft text had already been the product of domestic inter-agency consultations held over the summer of 2003 with the Departments of State, Defense and Justice.[208] This also highlights the nature of the issues involved and the political, military and legal dimensions of the undertaking. Such back-and-forth internal negotiations ostensibly formed the basis on which the U.S. could start making compromises multilaterally.

Prior to consultations, there already was a strong case for a comprehensive response, and a prior example on which to build upon, namely the outcome of the G-8 Summit in Kananaskis in 2002. Remarkably, the so-called Kananaskis Principles were designed to "prevent terrorists, or those that harbor them, from gaining access to weapons and materials of mass destruction."[209] They provided the signifiers "appropriate" and "effective" in relation to a series of measures, such as export controls and physical protection and accounting measures. Precisely, four of the six Principles use the terms "appropriate" and "effective," either used in tandem or

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van Ham and Bosch, "Global Non-Proliferation and Counter-Terrorism: The Role of UNSCR 1540 and its Implications," 3-23.

[208] Interview with William Tobey, Belfer Center for Science and International Affairs, Cambridge, April 2016.

[209] See the "Statement by G-8 Leaders: The G8 Global Partnership Against the Spread of Weapons and Materials of Mass Destruction," Kananaskis, 27 June 2002.

separately. The choice for this rather abstract language would later puzzle diplomats, implementers and experts attempting to understand the requirements of Resolution 1540.[210] Soon after its adoption in 2004, attention focused on the legal aspects of Resolution 1540, including the legislative role and powers of the Security Council and the legitimacy of the whole decisional process.[211]

Another important forerunner to Resolution 1540 is the Proliferation Security Initiative (PSI) established in May 2003 and aimed at interdicting trafficking in dangerous weapons and materials involving state and non-state actors.[212] The PSI emerged in response to a gap in the capacity of the core global nuclear non-proliferation treaty, that is the NPT, to address the evolving realities of trafficking in nuclear-related materials through states and private-sector networks and, though an informal agreement, it helped pave the diplomatic path that led to the conclusion of non-treaty based, yet legally binding, arrangements such as the 1540 one. Indeed, one of the non-legally binding yet intensely debated paragraphs in

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[210] Switzerland was the first country to raise definitional issues as to Resolution 1540 at the open session on 22 April 2004, especially when it comes to these generic terms. For academic and policy inquiries, see Bunn, "'Appropriate Effective' Nuclear Security and Accounting: What Is It?," 2008. While commentators point to the lack of definitions regarding the meaning of these "appropriate effective" signifiers, there is value and much to command in loose definitions, especially in light of evolving technologies and risks. The power of 1540 lies just in its general and perpetual applicability.

[211] As noted, early academic attention was devoted to analyzing legal aspects of the Resolution. Later on, scholars focused and continue to analyze institutional and implementation-related aspects of the Resolution as well as of the 1540 arrangement.

[212] U.S. Department of State, "Proliferation Security Initiative" and "Statement of Interdiction Principles," https://www.state.gov/t/isn/c10390.htm and https://www.state.gov/t/isn/c27726.htm, respectively.

Resolution 1540 implicitly alludes to this informal
activity when it calls upon "all States … to take
cooperative action to *prevent* [rather than *interdict* — as
it was originally conceived] illicit trafficking."[213]

Another critical institutional precursor to
Resolution 1540 is U.N. Security Council Resolution 1373
on transnational terrorism, in which the Security Council
acting under Chapter VII mandated all states to take far-
reaching measures to combat terrorism and to prevent and
suppress terrorism financing.[214] This is the first Security
Council resolution to ever make a passing reference to the
nexus of proliferation and non-state terrorist threats.
Resolution 1373 shares a number of commonalities with
Resolution 1540, one of the most important being the
establishment of a 'follow-up mechanism' under the guise
of a Security Council Committee to review implementation
of the measures called for in the text of Resolution 1540
and subsequent resolutions reviewing, updating and
extending the mandate of the 1540 Committee.[215] The
establishment of a dedicated organization, by no means an
undisputed point during the negotiations, arguably proves
neo-institutionalism's take on the role of international
organizations. While the U.S. did not envision the
possibility of a standing monitoring body, the idea became

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[213] For the reference, see Datan as well as Ogilvie-White, "UN Security Council Resolution 1540: Origins, Status, and Future Prospects," 141, in Knopf, *International Cooperation on WMD Nonproliferation*, 2016.
[214] See the website of the Security Council Counter-Terrorism Committee, https://www.un.org/sc/ctc/
[215] Biersteker, "The UN's Counterterrorism Efforts: Lessons for UNSCR 1540," in Bosch and van Ham, *Global Non-Proliferation and Counter-Terrorism*. See also, Oosthuizen and Wilmhurst, 6-7.

a reality when negotiations expanded beyond the permanent five Security Council members to include non-permanent as well as the entire U.N. membership. The inclusion of what will become the 1540 Committee, technically a subsidiary body of the Security Council, shows evidence of a forward-looking move.

Both as resolution and arrangement, 1540 has several points of origin. Security Council Resolution 1373, the Kananaskis principles, along with the PSI, are relevant precursors to Resolution 1540 and predictors of its design. It is also to be appreciated that this status of affairs arguably stands as an indicator of the existence of an emerging consensus on the threats and a simultaneous willingness to respond to them, possibly in concert and within a loose framework of rules and procedures. Clearly, self-interest goes a long way to explain states' willingness to negotiate on the most appropriate policy responses. The root cause that prompted the start of negotiations was the acknowledgment supported by mounting evidence and knowledge of the fact that a greater number of nations, sometimes in collusion with private non-state entities, were capable of engaging in proliferation and circumventing existing laws and regulations. Some important faces of proliferation, such as its financing, transshipment and brokering, were exposed.

At the same time, compounding the problem, there was the concurrent appreciation of the subtle irony that existing legal, regulatory and decision-making mechanisms were not only insufficient to address the growingly complicated threats of non-state-led proliferation, but also hampered concrete remedial action on the ground. Cumbersome negotiations and lengthy ratification processes, annual General Assembly resolutions and the unfeasibility of amending existing agreements could not provide for the needed responses to these challenges. Treaty review processes and conferences, such as those held every five years for the NPT, could not accommodate the views and needs of the big elephant in the room represented by the burgeoning private sector. Relatedly, despite the resemblance of NPT review conferences with the monitoring and review processes related to Resolution 1540, the obligations emanating from multilateral treaties are not as wide-ranging as those deriving from Resolution 1540 and its successor resolutions. Lastly, treaty review processes involve diplomatic and other government-related actors and, regrettably, do not fully include other equally and perhaps at this day and age even more crucial stakeholders, such as the private sector. Be as it may, agreeing on the threats would prove far easier to achieve than agreeing on the courses of actions.

The negotiation process

The proposal for a binding Security Council resolution dates back to September 2003 when former U.S. President Bush delivered his speech at the General Assembly's annual gathering at the U.N. headquarters. He urged to put in place and enforce a number of legislative countermeasures for, and regulatory controls over, WMD proliferation — weapons and systems deemed so destructive as to require special control—, and to secure related sensitive materials and technology. In his words, "Because proliferators will use any route or channel that is open to them, we need the *broadest possible cooperation* to stop them. Today I ask the Security Council to adopt a new anti-proliferation resolution. This resolution should call on all members of the U.N. to *criminalize* the proliferation of weapons—weapons of mass destruction, to enact strict export controls consistent with international *standards*, and to secure any and *all* sensitive materials within their own borders. The United States stands ready to help any nation draft these new laws and to *assist* in their enforcement."[216]

Notably, in their General Assembly speeches, the representatives of the Russian Federation and France, along with the U.K., also urged the U.N. as a whole to act

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[216]"President Bush Addresses United Nations General Assembly," document available online at: https://georgewbush-whitehouse.archives.gov/news/releases/2003/09/20030923-4.html

against proliferation. As the Russian representative stated: "A serious challenge to the modern world is the proliferation of weapons of mass destruction and the means of delivering them. And the most dangerous of all is for them to fall into the hands of terrorists. Methods of eliminating these threats are well known. They include further universalizing existing non-proliferation system, consolidation of international inspection tools, introduction of safe technology in nuclear production and energy."[217] The U.K. raised the question of Security Council action during the General Assembly, saying: "We all know that proliferation is one of the greatest threats we face. Much good work is being done by U.N. agencies, particularly the IAEA. But the Security Council itself has not addressed this issue for 10 years [arguably referring to the 1992 Presidential Statement in which for the first time the proliferation of weapons of mass destruction was seen as a threat to international peace and security]. It is time that it did."[218]

As such, before negotiations over a draft text, there already was an embryonic consensus among four Security Council permanent members over the dangers of new proliferation pathways and the loopholes embedded in existing treaties. For example, more than a year before

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[217] See, President Putin's speech at the 58th session of the General Assembly of the United Nations, 25 September 2003. Online at: http://en.kremlin.ru/events/president/transcripts/22128
[218] See Datan.

the speeches of September 2003, the U.K., France and Russia made a political commitment to the Kananaskis principles. China as the fifth permanent member of the Security Council and fifth recognized NPT's NWS however did not attend the G-8 Summit, nor did speak in favor of any Council action at the General Assembly meeting. China also acted as a guarantor of the principles of sovereignty and non-interference in domestic affairs by negotiating cautiously during the negotiations, especially in matters of textual interpretation.[219] France, the U.K., the U.S. and Spain were also original parties to the PSI. In sum, early interest alignment among four of the five veto-wielding Security Council members was already significant.[220]

However, as opposed to agreeing on the urgency of addressing novel proliferation dangers, the enactment and implementation of responses would prove much more daunting. The negotiating process followed emerges as both conventional and revolutionary in character. It was conventional in the sense that debates took place first among like-minded states, it then expanded to include the fifth Security Council permanent member, that is, China, and the other non-permanent Council members. Finally,

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[219] Interview with Will Tobey, Senior Fellow, Belfer Center for Science and International Affairs, Cambridge, April 2016.

[220] In addition, the European Union's Strategy against WMD, adopted in December 2003 at a time of Security Council negotiations over Resolution 1540, further highlights the existence of common ground. "The proliferation of weapons of mass destruction and their means of delivery" were and continue to be seen as a "growing threat to international peace and security," especially so in light of threats posed by malicious non-state actors. Further, the Strategy envisioned effective multilateral cooperation as the most suited response.

given the far-reaching implications resulting from the measures called for, the entire membership of the U.N. was invited to share their views in an open session of the Security Council.[221] This latter move is what sets the negotiating process apart with respect to previous Security Council practice.

It was revolutionary essentially because, after having secured agreement within the P-5 and the other elected members, debates expanded to include not only the entire membership of the U.N. and regional groupings, but also committed non-governmental organizations. Standard Security Council practice has it that discussions over draft resolutions — especially those that involve hard security issues and those that may be adopted under Chapter VII as Resolution 1540 was — would take place in closed sessions. Given the nature and scope of the draft resolution and the stated intention to adopt it under Chapter VII rules (thus not only potentially envisioning enforcement powers and even the threat or use of force in cases of non-compliance, but also raising the Resolution's legal profile to the very top of the international law hierarchy), the P-5 likely predicted that there would be greater than usual friction and, a week before its adoption, an open meeting was held in which over 30 countries participated. Not even Resolution 1373

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[221] Arguably, representatives of states spoke for many when they commended the Security Council and the sponsors of the Resolution to consult with the wider U.N. community.

concerning measures to address the threats posed by terrorism, adopted in 2001, which most closely resembles the text, spirit and design of Resolution 1540, enjoyed such a degree of involvement. As the representative of the Philippines remarked during that session, "Those who are bound should be heard. This is an essential element of a transparent process and is the best [way] to proceed on a resolution that demands legislative actions and executive measures from the 191 Members of the United Nations."[222]

While proliferation risks were invariably assessed as "imminent," "urgent" or "serious" and some form of policy response deemed as needed, it is instructive to highlight the contentious points raised by a number of delegations. The most debated issues raised during the open debate on 22 April 2004 included: the legally binding nature of the provisions; the legislative activity of the Security Council and the consequent bypassing of national parliaments; the appropriateness of the use of Chapter VII and, relatedly, whether non-compliance would automatically lead to enforcement actions; the scope of the measures called for in the Resolution, specifically with regard to the terms "non-state actors", "delivery means" and "related materials"; the emphasis on non-proliferation to the detriment of both disarmament and peaceful cooperation in the nuclear, chemical and biological domains; and,

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[222] See the 4950th meeting of the Security Council, 22 April 2004, 2.

finally, the functions, roles and composition of the follow-up monitoring committee.

As to the first controversial point raised by a number of delegation, it is to note that the first and foremost motive behind Resolution 1540 was to fill a *legal* gap in state-centric non-proliferation regimes by adding the new dimension of state-less, border-less proliferation, epitomized by the Khan global nuclear smuggling network. As a matter of fact, the majority of speakers at the April 22 open debate, as well as during the official adoption date on April 28, highlighted that non-proliferation regimes did not fully address the issue of how to prevent access by non-state actors to such weapons.

Regarding the legally binding nature of the Resolution on all U.N. membership, it is to remember that not all the provisions thereof, though 1540 was adopted under Chapter VII powers, are of such a nature. The mandatory paragraphs are those numbered 1 to 5 and 12, commonly referred to as the "decides that" paragraphs, which are deemed to exercise added legal heft than those numbered 6 to 11, and in which the Security Council obliges all states to: a) refrain from supporting non-state efforts to access nuclear, chemical and biological weapons, materials, equipment and technology; b) adopt and enforce "appropriate effective laws" in those domains; c)

establish effective domestic controls; d) establish "a Committee consisting of all members of the Council, which will, calling as appropriate on other expertise, report to the Security Council for its examination, on the implementation of this resolution" and, finally, the not-so ephemeral paragraph 12 in which the Security Council decided to "remain seized of the matter," thereby monitoring its developments on a continuous basis.[223]

Relatedly, a number of delegations also discussed the Security Council's right to assume the role of a 'global legislator' overriding the authority of national parliaments in matters of internal affairs and especially as concerns states' domestic legislation, some arguing that the Council was going beyond its mandate and some others stressing that, as a clear international peace and security threat, WMD proliferation fell squarely within its mandate.

A number of permanent and non-permanent members cited the flexibility with which the Council was allowing states to implement the provisions of the resolution. In this regard, the Spanish Ambassador said that the resolution "was not intrusive as it gives States leeway on how to internally interpret its implementation."[224] Notably, the representative of France added that the Council was simply "establishing the goals, but leaving each state free to

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[223] Correspondence with Richard Cupitt, former U.S. 1540 Coordinator, Washington, D.C., October 2012.
[224] See the 4950th meeting of the Security Council, 22 April 2004, 7.

define the penalties, legal regulations and practical measures to be adopted" to fulfill them.[225] Even the most vocal detractor, Pakistan, made it clear that the elasticity the Council allowed states in implementing the resolution was part of the reason that it could join others in adopting the text.[226]

On the use of Chapter VII powers, Pakistan noted: "A legitimate fear arises that when one sees the draft resolution under Chapter VII, with language such as that used — to 'combat by all means' — an authorization is being sought which could justify coercive actions envisaged in Articles 41 and 42 of the Charter, including the use of force."[227] The U.K., however, confirmed that: "the draft resolution is not about coercion or enforcement. Many delegations have raised questions about the Chapter VII legal base for the draft resolution and about what that implies. What this draft resolution does not do is authorize enforcement action. Any enforcement action would require a new Council decision."[228] The U.S., after having explained why Chapter VII should be invoked, said that the draft resolution was of the same opinion by stating squarely that 1540 was not about enforcement. Other speakers also acknowledged these reassurances.

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[225] See the 4950th meeting of the Security Council, 22 April 2004, 8.
[226] See the 4956th meeting of the Security Council, 28 April 2004, 3. From the reading as well as from the experts' interviews, Pakistan, along with several other countries such as South Africa, went from being a detractor of Resolution 1540 to an advocate of the 1540 arrangement as it now stands.
[227] See the 4950th meeting of the Security Council, 22 April 2004, 15.
[228] Ibid., 12.

When it comes to definitional issues, several representatives opined that a number of concepts contained in the draft resolution were not sufficiently precise and asked for clarifications on the definition of terms such as "non-state actor", "means of delivery" and "related materials". The representative of the Islamic Republic of Iran said that the draft resolution contained certain concepts and definitions that were either inadequately elaborated or inconsistent with the terms and definitions embodied in existing international instruments.[229] According to the text of Resolution 1540, a "non-state actor" is an 'individual or entity, not acting under the lawful authority of any state in conducting activities which come within the scope of this resolution." While the preamble refers to non-state actors such as those listed in the Security Council resolutions on terrorism (Resolutions 1276 of 1999 and 1373 of 2001), this indicates only the Council's primary focus on terrorism.

However, the definition is wide enough to cover private commercial enterprises. While the phrase "not acting under the lawful authority of any state" would cover, for example, a group of terrorists manufacturing or transporting weapons of mass destruction, it also includes companies transporting weapons without the necessary governmental authorization. The bottom-line effect is that

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[229] Repertoire of the Practice of the Security Council, 2004-07, 812-4.

every state must control all those involved in such activities, not simply non-state actors. The term "means of delivery" refers to "missiles, rockets and other unmanned systems capable of delivering nuclear, chemical, or biological weapons, that are specially designed for such use." As such, it covers any means of delivery specially designed, manufactured or modified for such use, thereby making sure the legitimate development, trade and use of systems such as missiles and unmanned drones are not hindered. The term "related materials" refers to "materials, *equipment and technology* covered by relevant multilateral treaties and arrangements, or included on national control lists, which could be used for the design, development, production or use of nuclear, chemical and biological weapons and their means of delivery." By adding the words "equipment" and "technology", the broad definition stands to include so-called dual-use goods — that is, goods that can be used in both civilian and military applications.

Regarding disarmament, in one of the earliest and yet most detailed accounts of the negotiations, Datan notes that only at the end of the negotiating process when non-permanent Council members were invited to express their views on the draft text some disarmament references were added. To begin with, the pre-ambular portion of the resolution notes that proliferation means "proliferation

in all its aspects of all weapons of mass destruction" and that preventive action includes the implementation of "multilateral treaties whose aim is to eliminate or prevent the proliferation of nuclear, chemical or biological weapons," as well as the need for "all member states to implement fully the disarmament treaties and agreements to which they are party." As a number of commentators have noted, the interpretation of Resolution 1540 can be 'stretched' to encompass efforts to prevent not only horizontal but also vertical proliferation.[230]

However, several delegations were of the view that the Resolution did not emphasize disarmament enough. Indeed, besides the pre-ambular portion of the Resolution, there are no disarmament references in the operative part. For example, Norway spoke for many in saying that "Non-proliferation and disarmament are two sides of the same coin. The irreversible destruction of stockpiles of WMD is the best guarantee that such weapons do not fall in the wrong hands."[231] Similarly, the President of the Security Council, speaking on behalf of his country, stressed that Germany would have preferred seeing a disarmament reference in the operative part as well and not just in the preamble.[232]

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[230] See, for example, Ware, "International Ju-Jitsu: Using UN Security Council Resolution 1540 to advance nuclear disarmament," 2004. Online at: https://www.wagingpeace.org/international-ju-jitsu-using-united-nations-security-council-resolution-1540-to-advance-nuclear-disarmament/
[231] Repertoire of the Practice of the Security Council, 2004-07, 812-4.
[232] 4956th Meeting of the Security Council, 28 April 2004, 10.

Lastly, outstanding questions surrounding the mandate, function and composition of the monitoring committee were explored. At the outset, it is to note that a strong precedent was already set by Resolution 1373 of 2001 establishing the Counter-Terrorism Committee to oversee national implementation. Views regarding the feasibility of a similar monitoring body for Resolution 1540 spanned from those who preferred the committee to play a rather passive role whose major task was to receive reports by states, such as was the case with Pakistan, to those who saw the follow-up body as a building block to successful implementation, such as was the case with the U.K., France and the Russian Federation.

As to its mandate, the future review body would have lasted for a period of no more than six months (then extended to 2 years following the open Council session). States were to report back on their implementation efforts and future plans to fulfill the resolution's requirements. Though the Committee's terms of reference were still to be adopted (the 1540 Committee was established in late 2004), the representative of Spain stated that the future committee should be "governed by principles of cooperation, equal treatment and transparency, and technical assistance to states should be one of its key components."[233] Almost a week after the open meeting on the

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[233] 4950th meeting of the Security Council, 22 April 2004, 7.

draft text, on 28 April the Security Council gathered to cast its vote.

Largely as a result of the process followed, the resolution was adopted by consensus. Despite the legal and political points previously raised, such as the distrust about the nature and scope of the resolution, the nebulous mandate and role of the monitoring body, the achievement of unanimity underscores the positive effects the accommodating negotiation process and cooperative, inclusive approach had on the outcome. However, when the establishment phase of resolution 1540 is isolated, it is not straightforward to identify the factor(s) that theories of, and lower-level approaches to, international regimes highlight to provide explanations for the formation of cooperative agreements and institutional arrangements. Clearly, this case seems to prove neo-liberalist explanatory accounts over both neo-realist, power-based as well as over norm-based, constructivist interpretations. The real and perceived rational self-interest of states has worked in the direction of making them agree to cooperate in the first place, even to the real and perceived detriment of other principles that have been vocalized during the negotiations. Even the most vocal critical of the whole 1540 enterprise in the negotiations shared in tandem with the sponsors of the resolution the basic objective of preventing the

proliferation of deadly weapons and technology to and by non-state actors. In addition, the creation of an international monitoring body adds to neo-liberal accounts of cooperation. Given the participatory and somewhat transparent negotiating process, US or P-4 hegemony (not leadership) and later P-5 supremacy can be ruled out. For example, even if the underlying reasons remain unclear, the U.S. resisted the idea of having a subsidiary body of the Security Council monitoring and reviewing implementation and initially omitted any disarmament reference.

In short, the unanimous adoption of Resolution 1540 does not reflect entirely the preferences of the process initiator and the conventionally depicted most powerful actor in the international system, that is, the U.S. Further, while relevant, especially in the early aftermath of the Resolution's adoption, normative concerns were sidestepped by the uttered urgency to address non-state proliferation threats and risks in a comprehensive manner. Specifically, despite the evidence that the new non-proliferation arrangement and the contextual background within which it was conceived was seen by some states as yet another unnecessary imposition of the advanced global North against the developing global South or as yet another exposure of the cleavage between haves and have-nots, thus suggesting a power-based dynamic, actually the

unfolding of the negotiations and the unanimity reached leads one to conclude that normative and power-based factors mattered comparatively less than neo-liberal dynamics. Relatedly, besides normative concerns, legal anxieties were also circumvented. While principles of international law have it that binding requirements for states to comply with should come with their consent and involvement, mostly in the form of treaties, Resolution 1540 created a binding regime that bypassed traditional decision-making and lawmaking processes.

As a final note that proves the relative validity and accuracy of neo-liberal, institutional explanatory factors is the envisioning of a monitoring body. Since 2004, (though Resolution 1540 was adopted in April, the so-called 1540 Committee became fully operational only in early 2005), its mandate has been extended on three occasions through the unanimous adoption within the Security Council of Resolutions 1673 in 2006 and 1810 in 2008, and most recently, Resolution 1977 in 2011. Among other implementation promoting tools and practices, Resolution 1977 extended the mandate of the 1540 Committee by ten years until 2021. In addition, the Committee conducted two comprehensive reviews in 2009 and 2016. Another full review is scheduled to take place before the expiration of the (current) mandate in 2021.

The operating procedures, tools and the larger approach to arranging implementation and managing its review experimented by the 1540 Committee is considered as carrying a substantial explanatory power for the relative success of this cooperative arrangement. Indeed, and especially in light of the contested nature of Resolution 1540 and the mentioned controversies and challenges expressed by states during negotiations, the contemporary increasing acceptance and constructive engagement by the international community, including by once skeptical states, regional groupings thereof and other essential stakeholders such as the private industry, the scientific community, international and national organizations, suggests that the analytical focus should turn to explore governance dynamics related to the 'back-end' of the cooperation loop, and implementation monitoring and assessment processes in particular.

1540's framework of implementation

This section evaluates the operating procedures and tools to facilitate implementation of the requirements mandated by Resolution 1540. At the outset, two reminders are in order. First, implementation is understood as a given set of procedures and activities to gather, monitor and assess the achievements of agreed upon objectives and, should

cases of poor performance or non-adherence by states to given courses of action such as is the case, for example, with voluntary reporting, the procedures and solutions with which to remedy such shortcomings. Second, given the 'all-in' approach followed by the Security Council to the prevention of nuclear, chemical and biological proliferation, implementation and review procedures and, most critically, the nature of risks may differ and intersect across and within domains. Suffice to note the rapidly advancing fields of nanotechnology, synthetic biology, 3-D printing and unmanned drones, all of which challenges non-proliferation. Technological innovation is occurring at a speed that calls into question the ability of governments and organizations to keep pace. This status of affairs poses formidable implementation challenges. Relatedly, the existence of multiple arrangements that impact on 1540-related issues makes the study of effectiveness more challenging and its dynamics more difficult to isolate. A focus on the governance mechanisms is thus even more warranted. After an analysis of the 1540 arrangement, the following section also scrutinizes those processes and tools being institutionally employed over the course of more than a decade of 1540 implementation monitoring and review.

To begin with, a useful starting point is an examination of the three follow-up Security Council

Resolutions 1673, 1810 and 1977, each of which not only and simply recalled states' obligations under Resolution 1540 and extended the time-limited operations of the Committee by two, three and ten years, respectively, but also and most critically added new facets in terms of operating procedures and implementation-enhancing tools. The functions of the 1540 Committee have expanded at each single adoption of successor resolutions.[234] Remarkably, while the text of Resolution 1540 envisioned the creation of a subsidiary body of the Security Council by explicitly *deciding* in operative paragraph 4 to establish a Security Council Committee, no reference is made in the text as to *how* the 1540 Committee would identify, monitor and gauge measures adopted by states. Paradoxically, and as former 1540 expert Volker Beck has remarked, by reading the text of 1540, and specifically operative paragraphs 5 and 8(c) on the IAEA and OPCW and multilateral cooperation, respectively, the functions of the soon-to-become 1540 Committee in facilitating national implementation are rather vague or outright inexistent.[235]

Another interrelated aspect, which impacts on the effectiveness of the 1540 regime, is associated with the ways in which states' willingness to cooperate and provide the Security Council with first or updated reports in

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[234] Kasprzyk, "The 1540 Committee's capacity-building function set for increased efficiency," In *Towards the 2016 Comprehensive Review*, 2015, 39-49.

[235] Beck, "The tools of the 1540 Committee," 2. *Towards the 2016 Comprehensive Review*, 1-7.

particular might be boosted. Indeed, while states were *called upon* to provide the Security Council 1540 Committee with a report on the measures taken or that they intend to take to implement the resolution within six months from the adoption of the resolution, no guidance or sample template as to how to report was offered. This facet will also be taken into consideration. Notably, it can already be advanced that the Security Council has given the 1540 Committee some extra leeway and margins of action as to the devising of appropriate engagement strategies and implementation-inducing tools under which to operate. As we shall see, the 1540 Committee has not shied away from making use of its freedom of action and has thus experimented unusual methods and practices.

The 1540 Committee and the Group of Experts

The 1540 Committee is technically a subsidiary body of the Security Council as provided by article 29 of the U.N. Charter and comprised of the five permanent and the ten rotating U.N. member states represented by Ambassadors, senior level diplomats and members of Permanent Missions to the U.N. Following in the footsteps of similar mechanisms and mimicking the modus operandi of the Counter-Terrorism Committee, states acknowledged the need for objective, depoliticized expert knowledge and, to this

end, set up in 2005 a loosely connected group of independent subject-matter consultants, each of which is appointed by the U.N. Secretary-General and subsequently approved by the Committee. With the adoption of the third and most far-reaching document after Resolution 1540, namely Security Council Resolution 1977 of 2011, the experts group was formally established.[236]

The Expert Group, initially consisting of four or less operating members, has currently up to nine specialists. The 1540 Committee and its associated experts are primarily tasked with two main duties and responsibilities, namely the examination of reports submitted and activities performed by states and the periodic fulfillment of accountability activities to the Security Council, such as the submission of implementation monitoring and review reports and other information to the Security Council. Since the beginning of its operations in 2005, the 1540 Committee has adopted so-called periodic "programs of work" to accomplish its broad mandate. In essence, work programs serve the purpose of identifying priorities and major areas on which to focus attention and scarce human and financial resources at its disposal.

The main concerns outlined in early documents, and specifically in those programs of work adopted until 2008, centered on five themes: the encouragement of submission

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[236] U.N. Security Council Resolution 1977 of 2011. Paragraph 5(a).

of first reports by states; technical assistance; cooperation with Security Council Committees; the examination of reports and additional information provided to the Committee; and measures to promote transparency. It is also worth noting that since 2009, and in stark contrast to early work programs, these guiding documents mapping out priorities became more detailed, formalized and ambitious.

Following the 2009 adoption of the eight program of work, in order to focus efforts more efficiently and redirect the work of the experts more productively, the 1540 Committee established a system of four Working Groups, open to all members of the Committee, with each focusing on what transpires to be the key pillars of the 1540 regime. These are: monitoring and national implementation; assistance; cooperation with international organizations, including the Security Council Committees; and transparency and media outreach. The working groups meet separately and jointly on a regular basis, usually once a month and sometimes along with the 1540 Committee. Notably, and as a further corroboration of 1540's institutionalization, the 2012 work program emphasizes a new, crucial theme on which the 1540 Committee and its experts are to focus. The inclusion of the agenda item titled "administration and resources," both financial and human, not only points to common sustainability issues,

but also reflects an almost natural bureaucratic enlargement process, which is a salient feature of almost any organization dealing with the prevention of evolving risks.

Rather innovatively, following the adoption of Resolution 1977, the 2012 program of work stresses that the Committee will promote, among other initiatives, greater transparency by holding open meetings on working groups' outcomes. As such, meetings' agenda, summaries of meetings and deliberation outcomes are now posted on the official website of the 1540 Committee. National reports by states and their respective Committee-approved matrices are now also put in the cyberspace. In this regard, online posting has increased substantially over time, and especially after the adoption of Resolution 1977 in 2011, which among other steps, explicitly requests the 1540 Committee to continue to institute transparency measures and organize activities and outreach events to selected stakeholders at the international (for example, IAEA), regional (for example, EU) and national (for example, parliamentarians) level. Over time, informative and constructive interactions have been established with civil society, namely with industry, academia, professional

associations, members of national Parliaments and the interested public.[237]

In this regard, since 2012 the *1540 Compass*, an electronic journal devoted to exploring 1540-related issues published by the University of Georgia-affiliated Center for International Trade and Security in cooperation with the UN Office for Disarmament Affairs, provides a platform for interdisciplinary dialogue among a wide range of civil society actors, including former and current 1540 experts. The outreach to wider audiences and public opinion has also featured among related 1540-centered implementation strategies. A section called "1540 in the media" has been created on the official 1540 Committee's website where attention-grabbing videos, opinion pieces and newspaper articles are posted.[238]

As mentioned, no less important has been the consensus decision taken in 2012 to increase the number and visibility of the Group of Experts. This suggests that the Committee's workload has increased significantly over the course of time. In addition, according to primary sources, the nature of the expertise related to 1540 has gradually changed over time from a political to a more technically bent professional profile. This may not only indicate that, while at the beginning experts were tasked

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[237] For a snapshot on these and additional 'marketing' activities, see the website of the 1540 Committee in particular the "transparency and media outreach" section at: http://www.un.org/en/sc/1540/transparency-and-outreach/general-information.shtml

[238] Cerini, "Transparency, communication and outreach," In *Towards the 2016 Comprehensive Review,* 81-7.

with reaching out to skeptical states and other stakeholders, thereby seeking to soothe existing and perceived cleavages, mainly related to the negotiating procedure and content of the Resolution, but also is indicative of the greater acceptance of benefits accrued in implementing the Resolution.[239]

While both the Committee and the Experts Group carry out the operative work of collecting and studying the reports submitted by states, the UN Secretariat, and specifically the Office for Disarmament Affairs and the Department of Political Affairs, provides substantive, administrative and logistical support. The Office for Disarmament Affairs also contributes to the Committee's activities in the areas of implementation, assistance, cooperation, outreach and transparency. In addition, financial support is granted by the so-called U.N. Trust Fund for Global and Regional *Disarmament* Activities, also shortened as the U.N. 1540 Trust Fund, which is backed by voluntary contributions from states and designed for financing specific projects to further 1540 implementation by identifying gaps in implementation and assistance needs. The U.N. Office for Disarmament Affairs manages the Trust Fund.

Institutional interactions have also increased, both quantitatively and qualitatively. In this regard, it is

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[239] Email correspondence and interview with Thomas Wuchte, former U.S. 1540 Coordinator, August 2016.

worth noting that early programs of work only mentioned cooperation with existing Security Council Committees. Beginning in 2008-2009, they included cooperation with sector-specific international and regional organizations, such as the IAEA and the EU, respectively. With the adoption of the first successor resolution to 1540, namely Resolution 1673 of 2006, the Security Council invited the Committee to investigate ways in which cooperation with international, regional, and national organizations could be boosted in order to help countries fully implement the requirements set out in Resolution 1540. As a result, the Committee cooperates with a wide range of over 40 such bodies. At the regional level for example, the African Union, the ASEAN Regional Forum and the Organization for Security and Cooperation in Europe have all adopted decisions and resolutions to give their political and practical backing.[240] Similar actions have also been taken by international organizations, such as the IAEA, which now incorporates 1540's obligations in its Integrated Nuclear Support Plans.

Further, the widening and deepening of interactions and assistance can also be seen in another institutional innovation, namely the establishment and designation in 2015 of regional points of contact, acting as hubs for the streamlining of implementation activities. Proposals for

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[240] Email correspondence with Thomas Wuchte, August 2016.

the establishment 'national and regional 1540 hubs' for assistance and coordination related matters were already called for by the 1540 Committee right at the beginning of operations in 2005. This long-term and soft approach to creating and maintaining expertise might well lead to an epistemic community. Even though a number of participants in the April 2016 Civil Society Forum on 1540 complained about a lack of nuclear-related institutional interactions and advocated for an all-encompassing strategic coordination, one should take time seriously and not forget how it all began.

1540 implementation review process: tools and practices

In the course of the initial timeframe within which the mandate was set to last according to the text of Resolution 1540, the work carried out by the Committee and the contingent of experts focused on fostering the submission of national reports and analyzing incoming ones.[241] Ironically, while the text does inform on what implementation measures states shall take, it does not prescribe how to do so, ultimately affecting working relationships on both the Committee and national sides. In doing so, and preeminently as a matter of practice and

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[241] However, already by the beginning of 2006 it was acknowledged that the "Full implementation of resolution 1540 by all States is a long-term objective," thereby suggesting the open-ended and long-term dimensions of the issues involved. See, in this regard, the fourth "Program of Work of the Security Council Committee established pursuant to Resolution 1540 (2004)," 4.

trial-and-error, it was realized that states had different interpretations as to what measures to prioritize and how much detailed reporting should be. In addition, the complexity of juridical and judicial systems at national, regional and international levels made any assessment particularly difficult to gauge.

As a consequence, upon the experts' own initiative, a so-called "1540 matrix" was developed for each U.N. member state in order to summarize the requirements states should fulfill according to Resolution 1540. Concomitantly, a database was set up in order to keep track of legislative and other regulatory measures. These are the two first and most prominent tools that have been developed. These are primarily intended to maintain records of and keep tabs on the legal, regulatory, administrative and organizational matters related to effective implementation of the 1540 regime. The latter tool provides mostly legal and regulatory information about a country's implementation status.

Notably, via implementation of transparency measures by the 1540 Committee, such as the promotion gained in open-source online posting, the database also acts as a guiding reference for other countries and as a 'peer pressure' tool on what and how states may report. The former tool, namely the 1540 Matrix, represents a standardized structure of rows and columns representing

the general and the specific requirements arising from the text of 1540 Resolution and, in particular, those obligations revolving around the implementation of "appropriate effective" controls of borders, exports, financing of proliferation-related activities and several other countermeasures related to non-state actors. Alongside each field, states indicate the measures they have taken. The information in the 389 sub-fields of the Committee-approved matrices comes from reports by states and international specialized organizations, such as the IAEA.

In the first seven years of its existence, the Committee has adopted a quantitative approach to evaluating reports of how states were implementing measures related to nuclear, chemical and biological terrorism prevention set in Resolution 1540 and its subsequent ones. While the rate of reporting states was reportedly low during the timeframe within which states were to report back, it nonetheless steadily grew, and by the end of 2016, 176 states representing over 90 percent of the whole U.N. membership have submitted reports. Several of them have done so more than once or twice, in addition to submitting additional information, action plans, letters and other forms of correspondence). Thus far, 17 states have not submitted a report.

While much remains to be carried out in terms of data collection methods and evaluation approaches,[242] an equally valuable qualitative approach to gauging across-the-board national implementation is taking shape, in part spurred by the increased sophistication in the experimentation with additional strategies and tools geared to maintaining focus and achieving commonly desired objectives. Paragraph 3 states that "the Committee will conduct a comprehensive review on the status of implementation of resolution 1540, both after five years and prior to the renewal of its mandate, including, if necessary, recommendations on adjustments to the mandate, and will submit to the Security Council a report on the conclusions of those reviews."[243] Accordingly, "The Comprehensive Review [is] intended to address ways of improving implementation by identifying and recommending specific, practical and appropriate actions to this end, and to analyze the operation of the Committee in the conduct of its tasks and recommend any changes considered necessary."[244] Resolution 1977 of 2011 constitutes a step to the institutionalization of an atypical 1540 non-proliferation regime.

This may be further suggested, in no small part, by new forms and areas of cooperation envisioned in the text

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[242] Husbands, "Transparency: Effective Implementation of UNSCR 1540 Now and in the Future," UNSCR 1540 Civil Society: A Dialogue with Academia and Civil Society, 11-12 April 2016, 78-81.
[243] Paragraph 3 of Resolution 1977 of 2011.
[244] See, "Background Paper for the Formal Open Consultations by the 1540 Committee," 1540 Compass, issue 11, 2016, 36.

of Resolution 1977 of 2011. Along with updated versions of the legislative database and the matrices, the Security Council, the Committee and the emerging Group of Experts have experimented with additional dynamic implementation-enhancing tools and iterative procedures. These processes include the development of technical reference guides, the sharing of *effective* implementation practices, the encouragement to draft and execute so-called "National Implementation Action Plans," as well as the accomplishment of thorough experts' official "visits" to states at their invitation.[245] Taken together, these mutually reinforcing implementation tools are meant to update national measures, review the steps undertaken and sustain dialogue among a wide range of stakeholders, spanning the whole hierarchy from high-level political figures down to the sector-specific actors and facility operators.

The exploration of novel monitoring and review practices has been partly stimulated by the outcomes of the two review exercises undertaken in 2009 and 2016. In Security Council Resolution 1810 of 2008, the 1540 Committee was requested to consider a comprehensive review of the status of implementation of Resolution 1540. To this end, the assessment of proliferation risks, the identification of measures to address critical issues that

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[245] Final document on the 2016 Comprehensive Review of the Status of Implementation of resolution 1540 (2004), at: http://www.un.org/en/sc/1540/comprehensive-review/2016.shtml

have not yet been resolved and the experimentation with possible new implementation approaches have been key focus areas, which ultimately prompted the establishment of the above-mentioned tools. In addition, highlighting the rediscovered participatory nature of the formal discussions held as part of the Comprehensive Review, the 1540 Committee held an open meeting in 2009 that witnessed broad participation by civil society groups. States, international, regional and national organizations and other stakeholders participated in both the review process and in the open meeting. The final 2009 report on the status of implementation is six-page long.

What is more, the perception of the growing impact of non-governmental actors on supporting implementation has been corroborated by the first-ever Civil Society Forum organized by U.N. Office for Disarmament Affairs in January 2013 and designed to integrate non-governmental entities, i.e. — all of those actors that are not legally bound to the text of Resolution 1540 and subsequent ones — into multilateral efforts to achieve the resolution's goals. In 2016 the Committee carried out extensive consultations with states and non-governmental groups aimed at seeking input and ideas for effective implementation. The final 2016 report on the status of implementation is over one-hundred-page-long. In the final analysis, the participatory, consultative and yet

constructive nature of such knowledge sharing and trust building processes almost clashes with real and perceived theoretical and methodological assumptions about dealing with seemingly intractable issues. Similarly, prior to formal open consultations of the 1540 Committee with states, organizations and civil society were conducted in the summer of 2016, a second Civil Society Forum, titled "A Dialogue with Academia and Civil Society," was hosted by the U.N. University in cooperation with the U.N. Office for Disarmament Affairs. Civil society is a term that does not only include actors within and insights from academia and non-governmental organizations, but also cover private sector networks and national parliamentarians.

In this regard, new interactions and outreach events to targeted audiences have been developed and, in some cases, have even been gradually institutionalized, such as a process that led to a series of conferences named after the German city of Wiesbaden where the first such multilateral summit of private-sector stakeholders and 1540 experts, and largely involving strategic trade and exports controls, took place.[246] As such, progress over the years has also been made on those requirements that by some interpretations are considered voluntary, non-legally binding in nature for states to implement, yet crucially

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[246] For more information on the so-called "Wiesbaden process" of industry engagement, see Kiessler, "Private sector engagement: Lessons learnt from the Wiesbaden Process," in Towards the 2016 Comprehensive Review, 88-96.

important in WMD prevention efforts. Already the text of Resolution 1540, specifically paragraphs 8(d) and 9, "call upon" all states to "develop appropriate ways to work with and inform industry and the public regarding their obligations under such laws" and facilitate "dialogue and cooperation on nonproliferation."

In conclusion, the 'non-standard' operating procedures, tools and the broad approach to arranging implementation and managing its review experimented by the 1540 Committee and the 1540 Group of Experts carries substantial explanatory power for the relative success of this cooperative non-proliferation arrangement. It surely is a relative success compared with traditional cooperative instances across the nuclear proliferation domain, such as are the cases with the NPT review process. It is also a success story relative to similar U.N. Security Council-mandated Committees, such as has been the case with U.N. counter-terrorism sanctions committees and regimes. In light of the contested nature of Resolution 1540 and the questions raised by national delegations during negotiations, the constructive engagement by the 1540 Committee along with its group of experts, as well as the increasing acceptance by the international community as a whole speak volumes to the largely positive repercussions on effectiveness that adaptive processes generate.

Chapter V

The Nuclear Security Summits

Introduction

In international politics, Summits are multilateral gatherings of heads of states and governments that take place sparingly. Therefore, they may well denote and symbolize events of the highest significance. More often, the conduct of multilateral diplomacy is routinely conducted at ministerial, administrative, and technical levels from which experts and negotiators are drawn. Summits involving the direct presence of states' "chief executive officers" represent the exception rather than the rule. Even more exceptional has been the practice of holding repeated high-level intergovernmental meetings on a biannual basis between 2010 and 2016 that aimed at tackling novel nuclear proliferation challenges faced by existing regimes. Specifically, the topic of the security of nuclear and radioactive materials enjoyed scant interest among countries, and has been, and in some aspects still is, an evolving and contested policy area. The non-proliferation regime embodied by the NPT and ensuing agreements has historically left the issue of

nuclear security at the margins of the mainstream political attention.

The Nuclear Security Summits are the latest iteration in a series of efforts aimed at highlighting the need for multilateral cooperation, institution-building, and operational coordination in mitigating the threats posed by the confluence of two phenomena that have — up until the onset of the 21st century — enjoyed a splendid (policy) isolation. The first, older phenomenon is state-centric, state-led, and symbolized by the presence of nuclear weapons, the storage of stocks of fissile materials (highly enriched uranium and plutonium), and the use of sensitive radioactive materials for legitimate peaceful purposes. The security implications of these materials are further exacerbated by the consolidation and expansion of civilian nuclear power programs across the world. The second, newer phenomenon is state-less, and comes from the fact that malevolent non-state actors, including terrorists, have both the intent and capabilities to go down the nuclear route.[247] Once relegated to the fringes of

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[247] The confirmation that 9/11 hijackers initially considered targeting nuclear power plants increased the concern about *nuclear terrorism*. One of the ISIS-affiliated suspects involved in the November 2015 terrorist attacks in Paris stalked a Belgian researcher working in a nuclear research reactor – where highly enriched uranium is used – by videotaping his whereabouts. According to a Washington Post editorial on 13 March 2016, "the authorities speculate that it might have been part of a terrorist plot to capture nuclear materials from the center, perhaps by kidnapping the researcher." According to a New York Times article published on 4 April 2016, the attacks that targeted a metro station and an airport in Brussels were fallback options as the original plan was to strike a nuclear plant. Also, in Belgium, in August 2014, there was the first-ever reported case of nuclear sabotage, which arose out of a labor dispute. An insider caused U.S. $ 100 to 200 million worth of damages by opening a locked vault and crashing a turbine. More shockingly, during investigations it came out that another worker at the same

specialized technical debates, the security as well as the governance implications of nuclear materials management has surged to the highest level in the international political agenda, in no small part due to the high-level attention brought by the Summits approach to the issue of nuclear security in recent years.[248]

This chapter focuses on the formation and evolution of the latest multilateral nuclear non-proliferation arrangement, namely the Nuclear Security Summits. The Nuclear Security Summits are a case of what this study has problematized as new forms of institutionalized multilateral cooperation in the field of nuclear non-proliferation. These novel arrangements go beyond first-order instances of interstate cooperation embodied in building-block instruments and institutions, such as the NPT, the IAEA, and ensuing second-order arrangements. Scholarly inquiry and diplomatic capital have largely focused on the establishment and development of a nuclear weapons-centered regime by discussing (theoretically) and negotiating (operatively) on the three foundations of the international nuclear non-proliferation regime. The three pillars embodied in the NPT consists of "non-proliferation" — a series of efforts that aim to control the spread of nuclear weapons to additional countries;

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plant had left Belgium to fight in Syria as a foreign fighter under ISIS and, upon his return, he had still been able to retain his security clearance and access highly sensitive installations (Bunn et al. 2016: 29).

[248] The first multilateral cooperative nuclear non-proliferation measures to focus on preventing non-state actors, and terrorist organizations in particular, are the PSI of 2003, Security Council Resolution 1540 of 2004, and the Global Initiative to Counter Nuclear Terrorism of 2006.

"disarmament," — efforts that aim to reduce the roles and numbers of nuclear weapons among those countries that already possess them; and "peaceful uses," — efforts that aim to promote civilian applications of atomic energy.[249] The strategies and mechanisms — or otherwise what Krasner has called the "norms, principles, rules, and decision-making procedures" — used to govern nuclear and other radioactive materials, rather than the weapons themselves, reflect the complexities associated with a changed environment where threats no longer stem solely from states and governments, but rather from a variety of non-state actors. Even though nuclear dangers have increased during the post-Cold War period, the threat dimension is not the only dynamic worth monitoring to explain the rise and fall of non-proliferation cooperative projects — the overarching explananda of this study.

In a recent overview of the political science literature on nuclear non-proliferation, Scott Sagan has noted a lack of analyses on non-proliferation arrangements other than those stemming from the NPT and the IAEA, and concluded by observing that these "newer institutions are *crucial elements of the regime* and should not be

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[249] Studies on the security implications of nuclear materials are rare; exceptions include Avenhaus et al. (2002); a National Academy of Sciences report released in 1994 on plutonium by Matthew Bunn and by John Holdren. Since 2003, the Belfer Center for Science and International Affairs' Project on Managing the Atom has issued regular reports on the security of nuclear weapons and fissile materials and on the topic of *nuclear terrorism*. Recently, see Bunn et al. (2016).

ignored."[250] As a matter of fact, this study analyzes newer multilateral cooperative ventures by disaggregating the traditional international nuclear (weapons) regime into individual components in order to explore the sources of multilateral cooperation and evaluate progress or regress in nuclear threats management institutions. In fact, it seeks in the final analysis to test the claim that these newer institutions, such as the Nuclear Security Summits, constitute *elements* of an international non-proliferation regime that is not centered on the NPT.

The objective of this chapter is twofold. The first is to gauge the relative explanatory power of a set of factors that IR literatures on regimes and non-proliferation identify when exploring the rise and demise of multilateral cooperation. The second is to assess governance effectiveness by focusing on the governance dimensions. In so doing, the institutional innovations brought by the Summits approach to nuclear security are highlighted. The chapter unfolds in four sections. The first seeks to clarify the terms *nuclear security* and *nuclear terrorism*, while the second section examines the genesis of the Nuclear Security Summit initiative and its formative stages. Consideration is given to the objectives of, and motivations for, the initiative, as well as the

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[250] Sagan, "The Causes of Nuclear Weapons Proliferation," *Annual Review of Political Science* 17(14): 225-44, 2011, 239. Studies on the effectiveness of the NPT-based regime include Fields and Enia (2009), Grotto (2010), and Fields (2014). On legitimacy, but still based on the NPT regime, see Rathbun (2006). On the role of domestic politics and economics, see Solingen (2007); on principles and norms, see Rublee (2009) and Müller and Wunderlich (2013).

drivers behind states willingness to participate. The
third section analyzes the negotiation process, the
substantive outcomes reached, as well as the main
accomplishments in the context of the four biennial
Summits that took place between 2010 and 2016. In
particular, it identifies those institutional novelties
that depart from NPT-based cooperative activities by
considering the stages of implementation and its review
process. The final section evaluates the findings in light
of the factors that are considered by the literatures on
international regimes to make multilateral cooperation
both manifest in the first place and sustainable over
time.

Nuclear security and nuclear terrorism: problems of definition

At the outset, it is useful to break down the terms
nuclear security and *nuclear terrorism* into their core
features. Like many other nuclear-related concepts, these
notions cover a wide-ranging set of interlocking issues
and, if not properly defined and contextualized, make it
difficult for scholars and practitioners alike to fully
grasp the policy implications. The most authoritative and
widely used definition of nuclear security is found in
IAEA documents. Ironically, the mandate of the IAEA does

not explicitly include any security-related work on nuclear materials.[251] The IAEA was created to promote the peaceful applications of nuclear energy while preventing its use for (malicious) military purposes, that is, acquisition of nuclear weapons by so-called NPT's "non-nuclear-weapon states." However, the IAEA does crucial work on nuclear materials. Indeed, almost the whole budget is spent on protecting and monitoring sensitive nuclear materials. This is true only in so far as measures of safety and safeguards are concerned. This is no small distinction.

In order to better grasp the differences between safeguards, safety, and security, it is useful to specify what safety and safeguards are. The IAEA defines *nuclear safety* as a set of measures for "the protection of people and the environment against radiation risks, and the safety of facilities and activities that give rise to radiation risks."[252] *Nuclear safeguards* are agreements between an NPT non-nuclear-weapon states and the IAEA in

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[251] Contrary to nuclear safety and safeguards, no nuclear security-specific treaties exist. The Convention on the Physical Protection of Nuclear Materials (CPPNM) is the only legally binding undertaking on nuclear security, opened for signature in 1980 and entered into force in 1987. However, the devil lies in the details. The CPPNM focuses on a "physical protection approach" to nuclear material solely used for peaceful purposes and during international transport. It does not cover the protection of nuclear facilities, nor domestic transport. In 2005, the Parties to the CPPNM adopted an Amendment in order to broaden its scope. Notably, it is set to enter into force soon (so the announcement at the 2016 Nuclear Security Summit) following the pressure exercised by the Summits. IAEA Director General Amano stated that: "The Amendment's entry into force is the single most important step to strengthen nuclear security" (IAEA 2016). The U.S. ratified the Amendment in 2015, thereby setting a good precedent and pressuring hold out states to follow suit. U.S. ratification spurred the way for the Amendment to come into existence.

[252] See, IAEA. 2007. "IAEA Safety Glossary, Terminology Used in Nuclear Safety and Radiation Protection." Vienna: IAEA. Document available at: http://www-pub.iaea.org/mtcd/publications/pdf/pub1290_web.pdf.

order to monitor and verify the non-diversion of nuclear materials and related activities to military uses. In contrast to nuclear security, IAEA safety and safeguards measures are enshrined in legally binding treaties that are internationally monitored. In contrast to nuclear safety, no consensus exists about the threat or even the consequences posed by the acquisition of nuclear or other radiological materials by non-state actors. Because of the perceived sensitivities involved in nuclear security matters, states, international organizations, and the private sector, including industry, have generally been reluctant to share information, even within national borders.

The IAEA defines *nuclear security* as "the prevention and detection of, and response to, theft, sabotage, unauthorized access, illegal transfer, or other malicious acts involving nuclear material, or other radioactive substances or their associated facilities."[253] This definition is very broad and encompasses the whole spectrum of (policy) responses ranging from prevention, physical protection, recovery of lost radiological sources, and stopping nuclear smuggling to nuclear forensics, export and border controls and emergency response. The working definition of *nuclear security* used

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[253] See, IAEA. 2015. "Nuclear Security Series Glossary." Vienna: IAEA. Document available at: http://www.ns.iaea.org/downloads/security/nuclear-security-series-glossary-v1-3.pdf.

here is narrower and focuses on the prevention side because of non-state actors' record of demonstrated capabilities and interests to acquire and possibly use weapons and materials of mass destruction. The definition that this study adopts is also materials-centered, process-based, and focuses on the supply rather than on the demand side. In short, I focus on prevention, that is, measures to prevent acts of nuclear terrorism, thus leaving aside detection, criminalization, emergency responses and the like. I also focus on materials, that is, the two fissile materials without which nuclear weapons cannot exist (highly enriched uranium and separated plutonium) as well as high-risk radioactive sources (those radiological materials that, owing to their characteristics, are suitable for a "dirty bomb") rather than nuclear facilities, power plants, and associated installations. Further, I understand nuclear security as a process and not as an outcome. Preventing nuclear terrorism requires constant vigilance, continuous monitoring, and adaptation in light of evolving threat assessments and changing contextual environment. Lastly, the definition I adopt is focused on the supply side because that is where the international community has the most leverage to act. In other words, this study assumes that nuclear power and the many peaceful applications of the atom will stay with us for the foreseeable future and,

as such, the focus is on the reduction and minimization in (and eventual elimination of) fissile and other high-risk radioactive materials that pose a security threat. A final note regarding fissile materials deserves to be mentioned. Highly enriched uranium and separated plutonium have both peaceful and military uses. At this point, I do not discriminate between the two as the large majority of measures that are agreed upon and implemented in one realm (the civilian) could be applied to the other (the military).

Other contrasting definitions exist that confuse the issue. There is still widespread misunderstanding about the meaning and policy implications of nuclear security, even among independent experts and negotiators. The latter group has never been trained in nuclear security negotiations, as the topic of nuclear non-proliferation has been historically dealt with within disarmament or export control frameworks.[254] For example, in the formal and informal conversations and interviews that I have conducted, some within the U.S. Department of Energy and Department of Defense, along with personnel at national nuclear research laboratories, refer to *nuclear security* as a series of measures aimed at ensuring the security, reliability and effectiveness of nuclear weapons. On the contrary, some within the U.S. Department of State, the

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[254] Conversations held with Matthew Bunn, Belfer Center for Science and International Affairs, Cambridge.

White House, as well as outside experts and analysts in the NGO community converge on the notion that *nuclear security* is about reducing and, wherever economically and technically feasible, eliminating dangerous materials.

As such, definitions of nuclear security differ even within national entities and professional groups, and range across the entire spectrum from maintaining well-cared nuclear weapons and stockpiles of fissile material to measures conducive to disarmament. As this definitional overview makes clear, *nuclear security* can be understood as the physical protection of materials and facilities (the "guns, guards, and gates" approach as also implicitly called for by the CPPNM), the non-proliferation of nuclear weapons (the safeguards approach), nuclear safety (the radiation protection approach), and the security and maintenance of nuclear weapons into the future (military-industrial approach).

Similar to the definitional conundrums that exacerbate technical and political cooperation, the catchphrase *nuclear terrorism* can also be misleading, thus making nuclear security negotiations and implementation extremely difficult tasks to accomplish. Whereas *nuclear security* deals with a wide variety of measures to protect materials from a series of intentional malevolent acts, *nuclear terrorism* refers to a series of plausible scenarios in which non-state actors (and not only

terrorists) can breach those measures. According to both literatures on "nuclear terrorism" and cases of reported incidents, *nuclear terrorism* events can unfold in four ways.[255] These include the possibility of acquisition and use of: a) intact weapons; b) fissile materials; c) radioactive sources and d) radioactive material dispersion, either through sabotage of or attack against a nuclear facility or while nuclear or other material is in transit. While scenarios a) and b) are low-probability and high-consequence events, scenarios c) and d) are assessed as high-probability and lower-consequence events. Indeed, cases of nuclear sabotage and attacks against nuclear facilities have happened before. Taken together, these four scenarios encompass *nuclear terrorism* and, as such, reflect the multilayered prevention policies that states, organizations, and the private sector have adopted. In doing so, the international community has developed a seemingly patchy framework composed of overlapping instruments and institutions. As noted during an interview with Matthew Bunn, one of the main rationales of the entire Nuclear Security Summit initiative was to design ways to improve the existing complex of instruments by enhancing their interaction.[256] Whether this has been achieved remains to be seen.

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[255] For comprehensive book-length studies on nuclear terrorism, see Ferguson and Potter (2005) and Allison (2005).

[256] Matthew Bunn, Co-Principal Investigator at the Project on Managing the Atom at the Belfer Center for Science and International Affairs, worked at the White House's Office of Science and Technology

The genesis of the Summits idea

The first documented evidence of the Summits idea dates back to July 2008 during U.S. Senator Obama's presidential election campaign remarks in which he called for a "Summit on Preventing Nuclear Terrorism."[257] However, the most impactful vocalized iteration came in April 2009 when President Obama laid out a strategy to counter nuclear dangers writ large, known as the "Prague Agenda," which reflected both change and continuity in thinking and doing non-proliferation. In terms of continuity, the speech reiterates past commitments including calls for renewed U.S.—Russian, bilateral nuclear arms control reduction efforts; the entry into force of the Comprehensive Nuclear Test Ban Treaty, opened for signature in 1996 and yet to enter into force after more than 20 years; the resumption of negotiations on a fissile material cut-off treaty, which also began in 1996 (treaty not yet negotiated); and the strengthening of the NPT. In terms of change, Obama's

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Policy during the Clinton Administration. He describes himself as a "nuclear policy entrepreneur." He worked under Senator Obama's presidential campaign in 2008 and he has been credited with persuading the Obama administration to take up the initiative to secure all vulnerable nuclear materials within four years by having world leaders talking about the topic. Interview with Matthew Bunn, Cambridge. 11 March 2016.

[257] Note the transition from the original emphasis put on "nuclear terrorism" in 2008 to "nuclear security" in 2009. The archives of the American Presidency Project at the University of California at Santa Barbara contain a vast amount of sources retrievable online as regards policy platforms, presidential candidates' remarks, speeches and other documentation. See: http://www.presidency.ucsb.edu/ws/?pid=93199#axzz2gOg4n57B. To be sure, the first historical example of world summits on the topic dates back to 1996 following an initiative by the Russian Federation who convened a G-7 Summit on Nuclear Security in Moscow. According to recent estimates, the U.S. and Russia together hold 90 percent of operational nuclear weapons (ca. 15,000). About 99 percent of weapons-grade HEU is held by states that possess nuclear weapons, and most of it belongs to Russia and the U.S. (IPFM Report 2015).

so-called "Prague Speech" added a new dimension to the usual nuclear non-proliferation's to-do list, namely countering the threats posed by non-state actors, and terrorists in particular, across the nuclear domain.

An example of the priority given to this issue is found in the 2010 U.S. Nuclear Posture Review, an official document that lays out actionable steps to reduce nuclear dangers, released shortly after the Prague speech.[258] The document states that the "prevention of nuclear terrorism and proliferation is at the top of the U.S. policy agenda" and "today's most immediate and extreme danger." Recently, in a March 2016 opinion article published in the Washington Post, U.S. President Obama himself wrote, "of all the threats to global security and peace, the most dangerous is the proliferation and potential use of nuclear weapons".[259]

Most interestingly, in both the Nuclear Posture Review and in Obama's Prague speech, nuclear security efforts were linked to the end goal of achieving the "peace and security of a world without nuclear weapons." In his Prague speech, Obama declared that, "we must ensure that terrorists never acquire a nuclear weapon." And notably, in order to help deal with this dynamic threat,

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[258] See Nuclear Posture Review, Report (April 2010), U.S. Department of Defense, iv. Document available at:http://www.defense.gov/Portals/1/features/defenseReviews/NPR/2010_Nuclear_Posture_Review_Report.pdf.

[259] "Obama: How we can make our vision of a world without nuclear weapons a reality," Washington Post, 30 March 2016. Document available at: https://www.washingtonpost.com/opinions/obama-how-we-can-make-our-vision-of-a-world-without-nuclear-weapons-a-reality/2016/03/30/3e156e2c-f693-11e5-9804-537defcc3cf6_story.html?hpid=hp_no-name_opinion-card-b:homepage/story.

he stated that the world needed "durable institutions" to prevent this nightmare scenario from happening.[260]

While the 2009's Prague speech brought discussions on nuclear security to the highest level of political attention, lower-level technical cooperation on the matter started at least two decades earlier. As a matter of fact, under the so-called U.S.-led Cooperative Threat Reduction (CTR) programs, the legislation for which was co-authored by Democrat Senator Sam Nunn and Republican Senator Richard Lugar, the U.S. began cooperating with states of the former Soviet Union, and the Russian Federation in particular, to increase the status of nuclear security by, among other things, dismantling and removing nuclear weapons, and by securing sensitive nuclear materials and associated facilities. These activities continued for two decades until 2013 when U.S.—Russia nuclear security cooperation ceased to continue as part of both broader geopolitical reasons (the Ukraine crisis and Russia's annexation of the Crimean peninsula top the list) and narrower considerations embedded in the terms of trade of the cooperation agreement signed in 1992, and in particular the "buy American" provision.[261] CTR programs have been praised as one of the most successful non-

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[260] The White House, Office of the Press Secretary, "Remarks by President Barack Obama, Prague, Czech Republic," 5 April 2009.
[261] See, Kassenova, "Implementing Nonproliferation Programs: The Cooperative Threat Reduction Process in the Former Soviet Union," in Knopf, *International Cooperation on WMD Nonproliferation*, 2016.

proliferation activities in history and, no less important, an important first-hand experience and learning opportunity for U.S. Senator Obama himself. Indeed, Obama's first official trip as a freshly elected U.S. Senator was a tour of CTR projects with Senator Lugar.

Notably, Obama's public remarks following that trip offer an insight into his views on the topic, as he remarked that "sources that can be used to construct improvised nuclear weapons and radiological devices must be brought under control" and that this will require "sustained involvement by the executive branch, Congress, non-governmental organizations, and the international community. Everyone has a role to play, and everyone must accelerate this involvement."[262] Perhaps even more instructively, Obama wrote term papers in college on the topic of nuclear arms control and the need to "break the Cold War mentality," and published a magazine article in 1983 in which the phrase "nuclear weapons-free world" first emerges.[263] In sum, the Summits approach to nuclear security has evolved from President Obama's long-standing interest in nuclear issues.

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[262] Council on Foreign Relations, Transcript, "Challenges ahead For Cooperative Threat Reduction," (1 November 2005). Document available at: http://www.cfr.org/nonproliferation-arms-control-and-disarmament/challenges-ahead-cooperative-threat-reduction-rush-transcript-federal-news-service-inc/p9138.

[263] "Obama's Youth Shaped His Nuclear-Free Vision," *The New York Times*, 4 July 2009. Document available at: http://www.nytimes.com/2009/07/05/world/05nuclear.html?_r=0. I thank Matt Bunn and Nicholas Roth, research associate at the Belfer Center's Managing the Atom Project, for this and for directing my attention to the newspaper article. See also, Turpen (2016: 184).

The 2009 Prague speech was the natural result of a long *learning* process initiated decades earlier, but it must also be located within the context of two prominent newspapers op-eds titled "A World Free of Nuclear Weapons" and "Toward a Nuclear-free World," published by George Shultz, William Perry, Henry Kissinger, and Sam Nunn in 2007 and 2008, respectively. In a strange turn of history, these authors and leading U.S. statesmen are some of the most prominent practitioners and staunchest defenders of the doctrine of nuclear deterrence. The essence of their argument is that while nuclear weapons have been essential in maintaining international peace and security during the Cold War, reliance on them is an illusion in today's complex threat environment; the emergence of new nuclear weapon states and non-state groups, including terrorists bent on martyrdom and mass destruction, presents dangers of a totally new kind. Hence, the goal of nuclear weapons abolition. The initiative of the so-called "Gang of Four" to write a bi-partisan opinion piece was followed around the world by former statesmen in such countries as Poland, Norway, France, Russia, the U.K., Italy, Germany, the Netherlands and Belgium.[264]

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[264] For the U.K., see Hurd, Douglas, Malcolm Rifkind, David Owen, and George Robertson, *The Times*, 30 June 2008. For Italy, see D'Alema, Massimo, Gianfranco Fini, Giorgio La Malfa, Arturo Parisi, and Francesco Calogero, *Corriera della Sera*, 24 July 2008. For Germany, see Schmidt, Helmut, Richard von Weizsäcker, Egon Bahr, and Hans-Dietrich Genscher, *International Herald Tribune*, 9 January 2009. For Poland, see Kwasniewski, Alexander, Tadeusz Mazowiecki, and Lech Walesa, *Gazetata Wyborcza*, 3 April 2009. For Norway, see Nordli, Odvar, Gro Harlem Brundtland, Kåre Willoch, Kjell Magne Bondevik, and Thorvald Stoltenberg,*Aftenposten*, 4 June 2009. For France, see Juppé, Alain, Bernard Norlain, Alain Richard, and Michel Rocard, *Le Monde*, 15 October 2009. For the Netherlands, see Lubbers, Ruud, Max

It is instructive to note that one of the common themes highlighted in the various op-eds is a reference to the threat of nuclear terrorism. Relatedly, it is important to note that the international endorsement of the threats posed by nuclear terrorism should not be seen as a U.S. obsession or a strategic diversion from longstanding NPT-based commitments, such as nuclear disarmament and unfettered cooperation in the peaceful applications of atomic energy. As Obama acknowledges, the two "Gang of Four" op-eds had an important influence in shaping his views on nuclear weapons and set the stage for his Prague Speech.[265]

In the follow-up to that speech, Obama reiterated his commitment at the U.N. General Assembly in September 2009 and introduced a resolution to the U.N. Security Council calling for steps to move toward a world without nuclear weapons. As testimony to the importance attached to nuclear disarmament and multilateral cooperation, in October Obama was awarded the Nobel Peace Prize. His perspectives on nuclear weapons and disarmament, along with his commitments to multilateral diplomacy and to breaking away from past unilateralist approaches of the previous U.S. Administration, were among the reasons for

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van der Stoel, Hans van Mierlo, and Frits Korthals, *Altes NRC Handelsblad*, 23 November 2009. For Belgium, see Claes, Willy, Jean-Luc Dehaene, Louis Michel, and Guy Verhofstadt, *De Standaard and Le Soir*, 19 February 2010.

[265] See, Kelleher and Reppy, *Getting to Zero: The Path to Nuclear Disarmament*, 2011, xv.

giving him the award.[266] As a consequence of all of these steps, the groundwork was set for nuclear security to rise to the forefront of the international political agenda.

The first gathering of heads of states and governments, as well as of relevant international organizations took place in the U.S. in 2010, followed by another one in the Republic of Korea in 2012 and in the Netherlands in 2014. At a speech in Berlin in 2013, Obama announced that contrary to his initial Prague proposal, a fourth Summit-level gathering to communicate, discuss, and negotiate on the subject of nuclear security be convened in the U.S. in 2016.[267] As Laura Holgate, in her role as U.S. lead negotiator for the 2016 Nuclear Security Summit, remarked: "in announcing his intent to host a fourth and final Nuclear Security Summit, President Obama situated this decision squarely in the vision of a world without nuclear weapons that he put forward in Prague in 2009. Clearly, disarmament cannot be fully achieved in a world in which nuclear terrorism remains a threat."[268]

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[266] See Nobel Peace Prize Announcement as video delivered, http://www.nobelprize.org/nobel_prizes/peace/laureates/2009/announcement.html.

[267] The idea of hosting a fourth and final Summit was first aired by Gary Samore, Obama's former White House Coordinator for Arms Control and WMD, U.S. chief negotiator for the 2010 and 2012 Nuclear Security Summits, and current Director for Research at the Belfer Center for Science and International Affairs. See Arms Control Today, 28 February 2013, "Samore Suggests 2016 Security Summit." Document available online at: https://www.armscontrol.org/act/2013_03/Samore-Suggests-2016-Security-Summit.

[268] Quote taken from Choubey (2015: 16).

The 2010 Nuclear Security Summit

As noted by U.S. Secretary of Energy, Ernest Moniz, in a speech delivered at the 2015 Carnegie International Nuclear Policy Conference, the 2010 Summit established at the outset a historical record as the largest gathering of world leaders ever convened by a U.S. president since the 1945 Conference on International Organization in San Francisco, which established the UN and its Charter.[269] Attended by 38 heads of states, several high-level ministerial delegations, and the heads of three international organizations, that is, the U.N., the IAEA and the EU, the 2010 Summit produced a consensus document, called Communiqué, and a plan of action, called Work Plan, that set forth specific objectives and actions to secure vulnerable nuclear materials around the world.

Notably, the 47 participating states included NPT countries with and without nuclear weapons, but also, and most importantly, countries with nuclear weapons that fall outside the purview of the NPT framework. Participants also ranged from major nuclear energy users to aspiring nuclear states. The senior White House Director for WMD Terrorism and U.S. chief negotiator for the 2016 Nuclear Security Summit, sometimes referred to as "Sherpa," Laura Holgate, remarked: "We were looking for countries that

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[269] See http://carnegieendowment.org/2015/01/05/2015-carnegie-international-nuclear-policy-conference/hyxl. Transcript version is also available.

represented diversity where we had states with nuclear weapons, states that don't have weapons, states with large nuclear programs and those with small nuclear programs."[270]

In the informal discussions and formal interviews conducted for this case study, two interrelated factors stand out as the main explanations for the coming together of so many different countries: Obama's personal *leadership* and the catalyzing role of *principles and norms*. I found this to be remarkable that all interlocutors have agreed on this point. More than other factors that theories of rules-based international cooperation or international regimes highlight, such as domestic politics, hegemony or self-interest considerations, it was the combination of the peculiarities of Obama and his profound knowledge of nuclear issues as well as his powerful ideas that motivated states to join the initiative. As the genesis of the Summits initiative has highlighted, *personalities and knowledge convergence* have mattered more than drivers embedded in threat perceptions and power considerations. Laura Holgate, who previously worked at Harvard's Kennedy School of Government as assistant to former U.S. Secretary of Defense Ash Carter has noted, the Summit initiative was a "Belfer conspiracy."[271] Similarly, and most recently, an

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[270] Quote taken from Findlay (2014: 3).
[271] See the Youtube video at: https://www.youtube.com/watch?v=kFhrjVwpirg.

Israeli official has observed that this experiment has been "a victory of the Belfer Center."[272]

In sum, the genesis of this latest multilateral endeavor suggests that academics and non-governmental organizations played an important role as sources and framers of new ideas and norms. They actually contribute more than creating new ideas, new principles or new norms. They are the medium by which *knowledge* gets diffused and reinforced through academic and executive training. Explaining multilateral cooperation on non-proliferation requires examining the different roles played by national governments, international organizations, non-governmental organizations, research centers, industry and the ways in which these actors affect the rise and sustainability of nuclear multilateralism.

The 2010 outcome documents were the product of a series of closed-door negotiations and preparatory meetings that took place before the actual Summit. These preparatory meetings were conducted in the U.S., in the Netherlands and in Japan. It is worth noting that the Communiqué stated at the outset the shared goals of nuclear disarmament, nuclear non-proliferation and peaceful nuclear energy uses, but without explicitly mentioning the NPT. The wording was careful not to reference the NPT due to the sensitivities of the three

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[272] Managing the Atom Seminar Series, "Nuclear Security and Arms Control Challenges in the Middle East," 28 March 2016.

non-NPT nuclear weapon possessors' states of India, Pakistan, and Israel, all of which participated in the Summit process. At the same time, however, the participants also asserted the shared objective of nuclear security, thereby adding an extra dimension (or a fourth pillar) to the non-proliferation agenda.

The Communiqué also promoted efforts to improve the security and accounting of nuclear materials and to strengthen regulations on fissile materials; ratification of key nuclear security treaties; the importance of capacity-building among law enforcement, industry and technical personnel; additional resources for the IAEA to develop and facilitate implementation of guidelines and the sharing of best practices among nuclear industry. The Work Plan laid out a series of specific, actionable steps to strengthen the international nuclear security framework.

Four innovations ensured the outcome of the Nuclear Security Summit in 2010. The first is the novelty of a U.S. President urging participants not to make pre-packaged rhetorical speeches and engage in genuine dialogue.[273] Strictly related to this point, and prior to the actual summit, President Obama encouraged participating Heads of States and Governments to announce measures that they would be able to undertake voluntarily.

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[273] Interview with Kelsey Davenport, Director for Nonproliferation Policy at the Arms Control Association, Washington, D.C. 24 February 2016.

This was achieved through a second remarkable innovation, that is the use of so-called "house gifts," named after guests who bring presents to a party.

This governance innovation was a response to one of the greatest weaknesses of multilateral negotiations, namely the problem of the lowest-common-denominator agreements that naturally result from the consensus rule. To be sure, some "house gifts" were effort-free and rather modest in the sense that individual countries pledged to provide additional funds to international organizations. Others, on the contrary, were innovative and forward-looking in the sense that they established new regional nuclear security cooperation hubs, called nuclear security Centers of Excellence for purposes of specialized education and training. As such, leveraging knowledge-based dynamics in such ways in order to develop and maintain cooperation is recognized as a key priority. "House gifts" helped to raise awareness about nuclear security issues and enabled high-level attention to be focused on it.

The third innovation lays within the sui-generis negotiation process itself and its rather novel division of labor. High-level, political Sherpa and lower-level, technical Sous-Sherpa meetings negotiated the Summit outcomes in advance of the official gathering. In addition, so-called Yaks carried out the work from their

respective national capitals and were responsible for integrating the different official perspectives on nuclear security that usually arise when different government departments and agencies (and ensuing interests) are involved.

Finally, though not originating from a U.S. government initiative, an NGO Summit (rebranded Nuclear Knowledge Summit in 2012) and an Industry Summit took place, albeit concomitantly and, consequently, without space for much interaction, on the margins of the high-level political gathering.

The 2012 Summit in the Republic of Korea

The follow-up Summit in Seoul in 2012 was intended to renew the commitments and, more importantly, to check implementation of nuclear security measures taken in 2010. The agenda witnessed increasing participation by states, the addition of INTERPOL as fourth subject-matter international organization, the enlargement of issues under negotiation that moved beyond the focus on fissile materials, and highly enriched uranium in particular, to encompass non-nuclear, radiological materials, as well as, in light of the Fukushima accident in 2011, the interface between nuclear safety and security and the importance of considering both dimensions for the safe and secure

development of nuclear energy. The 2012 Seoul Communiqué also highlighted the security implications of spent nuclear fuel and waste management practices as well as transportation security issues.

As noted by a senior officer in the Department of Energy's National Nuclear Security Administration, one of the most positive aspects of 2012 was the issuing by participating states of national reports highlighting progress made since 2010.[274] However, as noted by another interviewee, standardized reporting mechanisms would have been more effective but given the sovereignty taboo in sharing sensitive information, it still was a positive step in the right direction forward.[275] South Korea took pride in hosting the event because it was an opportunity to play a global and visible role in the nuclear field. South Korea is the world's fifth largest nuclear energy producer and has emerged as a new nuclear exporter. As such, performing the role of host was clearly in South Korea's real and perceived self-interest. Interestingly, the South Korean government reportedly engaged a famous Asian rock-star to write, perform and sing a "nuclear security" song at the launching of the Summit event, which was greeted by sumptuous fireworks.[276]

[274] Interview with senior government official, Department of Energy, National Nuclear Security Administration, February 2016.
[275] Interview with Davenport, Director for Nonproliferation Policy at the Arms Control Association, Washington, D.C., 24 February 2016.
[276] Interview with Michelle Cann, Director of Operations and Projects, Partnership for Global Security, Washington, D.C., 24 February 2016.

The Communiqué reaffirmed the value of multilateral instruments in the global nuclear security architecture as well as the role of international organizations and ended with calls to enhance information security and increase international cooperation. While producing a consensus Communiqué, the Summit did not produce any additional consensus document. This reflected the intent to signal continuity with, and give priority to, the Work Plan set forth at the Washington Summit in 2010. Although the results were not as impressive as those accomplished two years earlier, the 2012 Summit achieved some important remarkable accomplishments.[277] Noteworthy outcomes included ensuring that national commitments from the 2010 Summit were achieved and monitored, garnering new pledges and emphasizing greater coordination between international and regional nuclear security organizations.

One of the major innovations under the South Korean leadership of the Summit process was the shift from individual country commitments ("house gifts") to multiple-country pledges (called "gift baskets"). As noted by two interviewees who have been involved in tracking nuclear security progress for the NGO community, the move

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[277] Cirincione, President of the Ploughshares Fund, has called it an "underperforming summit" with a "minimalist agenda." Sharon Squassoni, director and senior fellow for the Proliferation Prevention Program of the Center for Strategic and International Studies, and one of the experts I interviewed, also called the summit a limited success by noting that the word "encourage" appeared 28 times in the Seoul communiqué. Others have noted that, between 2010 and 2012, the reduction of the global civilian HEU stockpile came from just one country, Ukraine (Kagel and Davenport 2012). However, house gifts and gift baskets were created precisely to go beyond "encouragement" and the removal of all fissile material in Ukraine just before the war broke out is a remarkable accomplishment.

to joint gift baskets represents one the most significant stimulus for new forms of cooperation in this area. Through these joint statements, states pledged to work together on a large number of actionable nuclear security items, such as: developing high-density fuel that would enable conversion of remaining highly enriched uranium-powered research and test reactors, thereby facilitating the minimization of highly enriched uranium stockpiles; countering nuclear smuggling, and educating personnel through training and education as well as the development and strengthening of regional nuclear security centers of excellence.

According to a civil society assessment, 42 of 53 participants signed on to at least one of the 13 gift baskets (Davenport et al. 2015). The move from individual "house gifts" to collective "gift baskets" represents one of the most significant innovations as to new forms of multilateral nuclear non-proliferation cooperation. A final note deserves to be stressed. The Communiqué noted the explicit acknowledgment of the important contributions of industry and civil society, highlighting the human dimension and the importance of nurturing a strong nuclear security culture. In contrast with 2010, the 2012 Summit side-events of both nuclear industry and non-governmental experts improved in terms of cohesiveness and clarity of purpose. For example, for the first time, the Nuclear

Industry Summit issued a joint statement outlining steps taken to improve physical protection, material accountancy and nuclear security culture. In addition, contrary to the 2010 event, space for more interaction between the two seemingly opposite professional groups was given.

The 2014 Summit in the Netherlands

The preparations for the 2014 Summit already began in 2012. In July 2012, a serious security breach at a nuclear weapons facility (a military facility) in the U.S. where hundreds of tons of highly enriched uranium are stored highlighted once more the multiple risks of failure even in the world's most advanced nuclear security system. The dynamic of the incident demonstrated "a pervasive culture of tolerating the intolerable and accepting the unacceptable."[278] As much like South Korea, the Netherland's reasons for hosting the 2014 Summit reflect a mix of self-interested goals and prestige associated with the high-level event.[279] The Netherlands has played a prominent role in multilateral disarmament and non-proliferation efforts, including by being the world's capital of international law. More specific reasons included Dutch awareness that a Pakistani metallurgist named A.Q. Khan (the father of

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[278] Augustine, Letter to the U.S. Secretary of Energy, 6 December 2012, 3. Document available at: http://pogoarchives.org/m/nss/20121210-augustine-ltr.pdf.

[279] Dutch Ambassador de Klerk has noted that the 2014 Summit has been "the biggest the Netherlands has ever seen, even bigger than The Hague Peace Conference of 1907," (de Klerk 2014).

Pakistan's nuclear bomb) had started setting up his illicit global smuggling network while in the Netherlands and, relatedly, the role of URENCO as one of the world's major producers and suppliers of enriched uranium services. Moreover, the Netherlands is also a major producer of radioactive substances. The Dutch government also perceives nuclear terrorism and illicit trafficking as a major threat given their role as a major transshipment point within Europe.

For the first time since the process initiated, a series of so-called "track 1.5" meetings with national negotiating teams comprising "Sherpas" and "Sous-Sherpas", representatives from international organizations and nuclear security experts, were held. Track 1.5 meetings are meetings in which senior high-level governmental officials involved in a given negotiation sit together with non-governmental and qualified subject-matter experts to discuss specific topics. Those governmental officials that take part in these dialogues do so in an unofficial way. Whereas the actual two-day Nuclear Security Summits are an example of track 1 diplomacy and, more precisely, are the epitome of track 1 diplomacy, given the direct involvement of Heads of States and Governments, the value of track 1.5 dialogues is to enhance understandings of a topic and constructively engage with those who will eventually make the final decision.

An important difference to underscore is that, while pre-negotiations are on-the-record and reflect individual countries' interests, the three track 1.5 dialogues conducted between 2012 and 2014 have been off-the-record, exploratory consultations and were held on a non-attribution basis, thereby allowing participants time and space to think freely and unconstrained. This cooperative effort envisioned to facilitate discussions on a secretive topic such as nuclear security stems from a project led by the Nuclear Threat Initiative (NTI) called the Global Dialogue on Nuclear Security Priorities. Reportedly, these meetings have achieved tangible results and ideas generated within these meetings made it to the highest political level. Indeed, perhaps the most important success of this cross-cutting initiative has been the inclusion in the 2014 consensus-based Communiqué of the item titled "voluntary measures" intended to promote the need for a strengthened global nuclear security system by employing international standards and best practices, thereby allowing states to build confidence in each others' nuclear security policies and practices and holding each other politically accountable (Hague Communiqué 2014: 4).

In addition, civil society input and engagement during NTI's Global Dialogue meetings proved relevant in pushing for the promotion of a gift basket called the

"Strengthening Nuclear Security Implementation" and signed by 35 participating states, though India, Pakistan, China and Russia did not subscribe to the initiative. The signatories undertook to exceed the nuclear security recommendations in relevant IAEA documents and to conduct self-assessments and host multilateral peer review missions to measure how well (or poorly) they were performing.[280] This is a testament to the values of including the opinions of different stakeholders and conducting an open and frank dialogue among experts and negotiators.

Notably, the IAEA took note of this remarkable achievement and, following a letter submitted to the IAEA by the original 35 signatories, the Vienna-based Agency translated the Strengthening Nuclear Security Implementation initiative into an official IAEA document, which was published in October 2014 (known as INFCIRC/869 under IAEA jargon), thereby allowing states that have not signed up, such as Russia and China or even non-NPT nuclear weapons possessor states, like India and Pakistan, or even states that have not participated in the Summit process, such as Iran, to join in at a later stage.[281]

As such, INFCIRC/869 offers a potential structure for states to move nuclear security forward after the Summits

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[280] Interview with senior policy officer, Nuclear Threat Initiative, Washington, D.C., 23 February 2016.
[281] At the 2016 Nuclear Knowledge Summit, it has been said that India is about to sign onto INFCIRC/869, thereby putting pressure on Pakistan to follow suit.

end in 2016. This also represents an important stand-alone
innovation; besides the consensus rule, another weakness
in the Nuclear Security Summit process has been its "mini-
laterality" status, that is, only a select group of
countries have been participating in a rather exclusive
process. In no small achievement, with the adoption of
INFCIRC/869, an exclusive initiative became an inclusive
effort.

Not only in terms of building consensus, but also in
the phase of implementation monitoring, non-governmental
expert groups have achieved tangible results. The
increasingly important role of experts was underscored at
official levels during the Summit. For example, another
influential initiative jumpstarted by NTI, in
collaboration with the Economist Intelligence Unit, has
focused on developing the "nuclear materials security
index" and scoring countries' implementation record.
Ironically, during the 2014 official Summit, one
government's representative was proud to boast of her
country as ranking 16th among 24 states examined in the
Index, but this also highlights the importance of this
NGO-led initiative among states.[282] Besides the
Strengthening Nuclear Security Implementation initiative,
new gift basket topics introduced included the security of

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[282] Interview with Choubey, former Senior Director for Nuclear and Bio-Security at the Nuclear Threat
Initiative and former fellow at The Foreign Policy Institute, Johns Hopkins University's Paul H. Nitze
School of Advanced International Studies, Washington, D.C., 23 February 2016.

the maritime supply chain, nuclear forensics, and supporting implementation of UN Security Council Resolution 1540.

An additional important innovation that has never been brought up before was the release by the government of the Netherlands in 2014 of the results of an IAEA-conducted peer review mission to inspect the status of nuclear security policies and practices in the country.[283] This had never happened before and can be regarded as a watershed event in multilateral nuclear security affairs; not only are IAEA peer reviews voluntary and requested by IAEA member states, but also the related information is secret or, at least, kept confidential between the inspected state and the small IAEA nuclear security team. The release of the peer review results has potentially set a precedent for other countries to follow and created peer pressure to demonstrate their track record, thus demonstrating to the international community that striking a balance between the need to protect sensitive nuclear security information and the need to share information and build confidence is possible. In essence, more information can be safely shared and incremental opening-up can lead to greater cooperation among states.

As in Seoul, the 2014 Nuclear Security Summit featured official parallel Summits of experts and nuclear

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[283] Interview with a senior government official, U.S. Department of Energy, National Nuclear Security Administration, Washington, D.C., 25 February 2016.

industry representatives. A priority for the Dutch government was "improving the efficiency and effectiveness of the relationship between governments and industry" (de Klerk 2014: 19). There was also an effort to promote the interaction between governments, industry, and civil society through the intergovernmental process. Representatives of industry and civil society were, for the first time, invited to brief the official negotiating teams. As a consequence, more interaction and exchanges of opinion was generated. The Summit proved to be dynamic for another reason. World leaders conducted an interactive scenario-based, tabletop exercise, which focused on the coordination of a response to a radiological incident, thereby enhancing common understandings of the problem where previously none might have existed, and its mitigation pathways.[284] Again, leveraging such knowledge-based dynamics in such innovative ways is a key priority for developing multilateral cooperation and maintaining it over time.

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[284] Interview with a senior government official, U.S. Department of Energy, National Nuclear Security Administration, Washington, D.C., February 2016.

The 2016 Nuclear Security Summit: final act?

Between March and April 2016, Heads of States and Governments from more than 50 countries returned to Washington, D.C., for the fourth and final Summit in order to gauge progress made in, and to set new goals for, the security of nuclear materials and other radioactive sources. Over the course of the two-day high-level political talks, participants followed the usual protocol by committing themselves to a series of initiatives aimed at minimizing vulnerabilities in nuclear security systems, while maximizing international cooperation and collaboration. These official statements consisted of a consensus-based Communiqué, a series of "gift baskets" such as on transport security, certified personnel training, and cyber security, plus a number of joint statements issued by countries and international organizations alike, such as the U.S.-China statement on nuclear security cooperation and the EU-U.S. statement on nuclear forensics. National statements and national progress reports were also released during the Summit.

In addition, with a view to both carry forward the work after the conclusion of the Summits and maintain political momentum, participating states officially pledged to continue joint efforts through multilateral diplomacy by negotiating five so-called "Action Plans."

Each document identifies tasks and responsibilities for the five international nuclear security organizations, i.e., the IAEA, the U.N. in its General Assembly and Security Council formats, Interpol — the international law enforcement organization, the Global Initiative to Counter Nuclear Terrorism — an informal international partnership devoted to combating nuclear and radiological terrorism, and the Global Partnership Against the Spread of Weapons and Materials of Mass Destruction — a group of donor countries on such issues. However, at closer look, the Action Plans largely restate what these organizations were already doing, without setting a path for future activity.

Other commitments made provide a more solid base for continuous improvement and constant interaction. For example, more than 30 countries signed onto a gift basket in order to continue meeting annually on the margins of the IAEA General Conference as a so-called "Nuclear Security Contact Group" consisting of past Summits' Sherpas and Sous-Sherpas in order to push forward the Summits agenda. Remarkably, the membership of the Contact Group is open to other countries, no matter if they participated in the Summits or not. As such, this could represent an important milestone for sustaining multilateral cooperation on nuclear security going forward. Furthermore, an indirect contribution of the Summit process has been the pressure applied to some hold

out states regarding the entry into force of the 2005 Amendment of the Convention on the Physical Protection of Nuclear Materials (CPPNM).[285] This amendment obliges states parties to secure their civilian nuclear material in use, storage, or transport in a manner consistent with IAEA guidance, and facilitates the criminalization and prosecution of nuclear smuggling.

Perhaps most interestingly with a view to sustaining progress over the long run is the fact that the entry into force of the CPPNM Amendment will trigger a mandatory meeting in five years. The CPPNM also allows parties to request additional review conferences at intervals of five years or more. By supporting the convening of regular CPPNM review conferences beyond the first mandatory meeting, countries are acknowledging the need for an institutionalized mechanism for long-term progress.[286] In the final analysis, all of these efforts suggest that political attention will not fade away in the absence of high-level summitry, and that states will be held politically, if not legally, accountable for progress on strengthening nuclear security policies and practices. In sum, the inclusive interactive venues epitomized by both the "contact group" on nuclear security as well as by the initiative on nuclear security implementation, along with

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[285] The majority of states that have ratified the 2005 Amendment have done so during the nuclear security summit era. Most notably, the United States, which originally proposed the amendment, ratified it in 2015.

[286] Interview with NTI officer, February 2016.

the mandatory review conference of the CPPNM that will take place in five years, will go a long way toward realizing President Obama's objective of "keeping this process alive and effective" after 2016.[287] These forums will likely provide opportunities for discussion, reporting on progress, and further multilateral cooperation.

Another important development at the 2016 Summit was the endorsement by China — a state that not only possesses nuclear weapons but also faces serious security threats by non-state actors, of the 2014 "Strengthening Nuclear Security Implementation" initiative. By signing onto the initiative, China commits to follow IAEA nuclear security principles and guidelines in its national rules and regulations and allow teams of international experts to periodically evaluate its security procedures through the practice of IAEA-mandated peer review missions, such as such as International Physical Protection Advisory Service and International Nuclear Security Advisory Service on a periodic basis. And, just after the 2016 Summit ended, India, also a nuclear weapon possessor state, announced that it too is joining the initiative. Pakistan — a nuclear weapon possessor state that falls outside the purview of the NPT regime — has so far refused to follow suit. Whether it will follow in India's footsteps and sign

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[287] See Bunn et al., Preventing Nuclear Terrorism: Continuous Improvement or Dangerous Decline?," 2.

onto the Strengthening Nuclear Security Implementation initiative remains an outstanding question.

As far as the security of non-nuclear, radioactive materials is concerned, another important gift basket deserves mentioning. The gift basket on "strengthening the security of high-activity sealed sources," signed by 28 countries plus Interpol, seeks to prompt states to make an effort to build an important, yet overlooked, cornerstone of the nuclear security regime given that the amended CPPNM does not apply to radioactive materials. A 2003 voluntary Code of Conduct on the Safety and Security of Radioactive Sources only covers these materials. This non-legally binding measure does not tackle many of the criticalities surrounding such sources, such as their safe and secure disposal. The gift basket commits the signatory states, most of which do commercially produce such sources such as Canada, the Netherlands, and the U.S., to strengthen the international framework on such sources and cooperate more on disposal. It also includes a new commitment by states to support the development of new technologies that could replace high-risk radioactive sources with less dangerous ones and promote their development when technically and economically acceptable.

Although significant progress has been achieved, it is important to note a number of deficiencies pertaining to the last Summit event. First and foremost, the absence

of Russia and its refusal to participate in the negotiating process leading to the 2016 Summit. Even though nuclear security is a shared interest of both the U.S. and Russia, as the long history of bilateral and multilateral cooperation demonstrates, Russia's decision not to get involved in the process had less to do with divergences on the threat of nuclear terrorism and the need for strengthened nuclear security, and more to do with broader geopolitical reasons, specifically with regard to Ukraine. Furthermore, Russia and Pakistan are the only nuclear weapons' possessor states that have not signed onto the initiative that aims to strengthen nuclear security implementation. Any effort to make progress in this issue area needs the cooperation of Russia, as it possesses, along with the U.S., about 80 percent of sensitive nuclear materials. Moreover, the Summit outcomes did not tackle the big elephant in the room represented by stocks of nuclear materials in military uses. Not only were pledges in joint statements and gift baskets without a time limit against which to check progress, but also, and perhaps more importantly, the official Communiqués released between 2010 and 2016 largely glossed over the sensitive nuclear materials stored in military applications, which represent the bulk of the total stock of fissile material across the world. Most of the tangible progress thus far has focused on nuclear materials in

civilian uses. As noted above, another missed opportunity stemmed from the rather modest language of the "action plans" for the five international organizations. Whereas on the actual operative side, much more could have been done, for example, by requesting consideration of an increase in the IAEA budget or by giving the IAEA greater power to require states to take action on nuclear security matters, on the abstract level of theories of multilateral cooperation, the negotiation and adoption of the "action plans" explicitly stand for the recognition by states of the important roles international organizations can play, even in international security matters of the highest order.

As in the Netherlands, the 2016 intergovernmental Summit witnessed the unfolding of two parallel side-events, namely the Industry Summit, organized by the Nuclear Energy Institute, where hundreds of senior industry leaders met to discuss the industry's global role in securing nuclear materials and installations, as well as the Nuclear Knowledge Summit, organized by the Fissile Material Working Group, where 200 NGO and academic experts from nearly 50 countries explored steps that governments, the private sector, and the nongovernmental community can take to strengthen the global nuclear security and prevent nuclear and radiological terrorism. It is however worth noting that states' representatives and international

civil servants involved in the high-level political gathering did also attend segments of both the Industry and the NGO summits. International news media, from CNN to Al Jazeera, were also present. I had the opportunity to participate in the Nuclear Knowledge Summit and observe the development of the two-day non-governmental gathering.

Panels and the ensuing debates highlighted the challenges surrounding the minimization and elimination weapons-usable materials, the benefits of achieving a comprehensive nuclear security regime, and the ways in which sustainable nuclear security governance can be established. In addition, closed-door breakout sessions were held, each of which tackled specific questions pertaining to civilian and military fissile materials, radiological materials, the role of the IAEA, as well as the global nuclear security governance. Remarkably, for the first time ever since the Summits started in 2010, the nuclear industry and nongovernmental communities merged together on the final day for a joint session, with panels discussing security in emerging nuclear countries as well as nuclear security governance systems.

Indeed, as Kenneth Luongo, one of the key bridge-builders among the industry and the NGO community, remarked, "the key outcome [in 2016] is closer cooperation among civil society, government, and industry. We've evolved to the point where we are having joint sessions

between the civil society and nuclear industry summits. It began with complete estrangement on both sides … and evolved through dedicated interaction to the point where we realized that there are common parts to our agenda."[288]

Preliminary findings

The Nuclear Security Summit process has led to a recasting of the narrative about the security threats posed by nuclear weapons and the proliferation of unchecked weapons-usable materials. The presence of nuclear weapons and vulnerable nuclear materials are now more and more perceived as a potential liability rather than a source of power, status, technical prowess or strategic military advantage. States' willingness to participate in the Summit process can be traced back to Obama's Prague speech, which charted a new path by which the United States in tandem with multilateral institutions and the international community as a whole could contribute to security and progress in the nuclear domain in a more substantive manner. *Common interests and shared ideas* were aptly captured by his speech and his long-lasting academic and political involvement with this issue. As this chapter has argued, the initiative appealed to several heads of

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[288] Interview with Ken Luongo, in "Nonproliferation Expert Praises Security at US Nuclear Plants," http://www.nei.org/News-Media/News/News-Archives/Nonproliferation-Expert-Praises-Security-at-US-Nuc.

states and governments independently from their threat perceptions and "egoistic" self-interests.

Other reasons that governments decided to participate are rooted in *norms and principles*. At one level, Obama's personal and longstanding engagement in the field explains his foreign policy focus on the matter. At another level, his views on nuclear arms control and disarmament as well as a renewed emphasis on multilateral approaches to international security explain other countries' willingness to participate. At yet another level, the sui-generis decision-making approach followed during the process was intended to spur action while avoiding the traditional political difficulties of agreeing to a treaty and making it domestically enforced. With the Summit process, more difficult treaty negotiation processes were sidestepped in favor of more action-oriented and timely processes at the highest possible political level along with several rounds of negotiation and the development of consolidated interagency national "points of contacts" on Summit-related topics. One of the most far-reaching decisions taken at the 2016 Nuclear Security Summit was to harness the wealth of nuclear security knowledge and working level relationships created during the seven-year-long Summits process by ensuring that the Sherpa network, rebranded "Nuclear Security Contact Group," meet regularly once or twice a year. Recognizing the interests of those

states that have not participated in the Summit process, this Group will be open to other countries.[289]

The greatest weakness of the whole enterprise, namely the consensus rule and the watered-down language it usually entails, were overcome with the idea of sponsoring additional voluntary, non-legally binding commitments, called gift baskets. The innovation of gift baskets has been very important for encouraging countries go beyond lowest common denominator consensus agreements. This cooperation-plus form of engagement highlights that the conventional stumbling blocks of sovereignty and secrecy do not necessarily make international cooperation impossible to achieve and sustain. Recently, the gift basket innovation has been adopted during other multilateral negotiations, such as the Paris conference on climate change and the global health security agenda.

When it comes to the phase of formation of multilateral cooperation, more than changes in U.S. domestic politics environment as highlighted within the neoliberal camp of international regime scholars, or even more than U.S. hegemonic leadership as highlighted by neorealist accounts, the evidence shows that the ideas espoused by President Obama as a result of his experience, as well as the timing of the initiative, played a more prominent role. As regards timing, non-proliferation

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[289] See, INFCIRC/899, IAEA, November 2016. Document available online at: https://www.iaea.org/sites/default/files/publications/documents/infcircs/2016/infcirc899.pdf.

analysts tellingly describe the 2009-10 period as a "nuclear spring," a particularly cooperation-prone historic period in which i) the U.S. released its Nuclear Posture Review recognizing Russia's and China's security interests and seeking cooperative strategies to address them; ii) the U.S. and Russia negotiated further nuclear weapons reductions; and iii) a successful NPT Review Conference was held.

As regards the role of ideas, the strategy pursued was to focus on a narrow, technical and less known topic (nuclear security) as a way towards a world without nuclear weapons. Hence, the heuristic power of appropriately and effectively framing that idea has exercised a sort of attractive pull for other states to join in. Further, contrary to neorealist and liberal explanations, as the genesis of the Summit initiative demonstrate, inter-state cooperation is much more than cooperation between states and is often the result of an emerging consensus on nuclear security brought by private and public academic research centers.

Far from being the result of an "epistemic (nuclear security) community," this case nonetheless shows the relevance of academic and policy networks as vehicle for transmitting actionable policy ideas. Along the same lines surprisingly, states participated for reasons different from self-interested behavior. The collected evidence

points to the power of *ideas and prestige* considerations connected to the maintenance of good relations with the U.S. In essence, constructing multilateral cooperation in this case has required *learning* processes, *knowledge* accumulation, and *persuasion* in the form of appropriately crafted heuristics, all of which are relevant for exploring the rise and fall of rules-based forms of international cooperation that are highlighted by the cognitivist-constructivist camp of international regime analyses.

When it comes to implementation, high-level political attention has given the topic of nuclear security a sense of urgency. The importance of high-level, focused, and sustained attention somewhat resembles the role crisis or accidents have had in changing nuclear state behavior and policy. They call attention to a given problem in a dramatic and sudden way. In the phase of implementation, lower-level operational networks benefit from the political attention paid and sense of urgency, thus making it faster. For example, it is remarkable that most nuclear security commitments and pledges since 2010 have been accomplished, thereby providing practical steps towards locking down nuclear and other radioactive material and building up a nuclear material-centered international regime. Specifically, over 40 Summit countries have engaged in capacity building, whether through training,

centers of excellence, or simulations. Over 30 countries have updated national nuclear security laws, regulations and institutions. Over 20 countries have held peer review missions, either bilaterally or through the IAEA. Three original outsiders (China, India, and Jordan) have later subscribed to the Strengthening Nuclear Security Implementation gift basket (now known as INFCIRC/869). 18 countries have taken steps to increase the security of radioactive sources. 17 countries have been involved in removal or disposal of nuclear materials, or minimization of highly enriched uranium. 16 countries have ratified relevant treaties or taken particular steps to implement them. 15 countries have carried out physical security upgrades to their nuclear installations. A dozen countries have joined or launched new international or regional structures to support subject-matter cooperation.

When it comes to implementation reviews, national governmental actors are supported by a myriad of other actors, including but not limited to NGOs, research centers and industry, that benchmark and check progress made individual countries and engage with governments on threat reduction efforts, sharing information and lessons learned about communicating effective practices. As a consequence, international learning and knowledge building is spurred. Relatedly, rather than using punitive measures

such as sanctions or threat or use of force, compliance-inducing measures tend to prefer the use of soft law at the international level, non-legally binding mechanisms and voluntary measures, such as those advisory services and peer reviews provided by third parties, to uphold compliance with the international nuclear security standard. Whereas hard law forms the bedrock of the non-proliferation regime, the evolution of the regime shows a tendency to develop and follow voluntary standards and codes of conduct not as a substitute for treaty law but rather as an additional tool.

In the final analysis, the Summits approach has certainly raised public awareness of the problem, spurred new commitments by governments in sometimes unusual and innovative ways, and generated new forms of multilateral cooperation above and beyond the NPT-based non-proliferation regime. To the staunchest supporters of nuclear security, the achievements of the Summits may appear modest, but without this initiative, even they would not have been possible. By no means have the summits been an unqualified success in dealing with the problem of vulnerable nuclear materials around the world. However, the efforts to strengthen nuclear security and to energize international cooperation in this new nuclear field stand out, particularly at a time when traditional multilateral non-proliferation mechanisms, such as the NPT Review

Conferences and multilateral disarmament negotiations, have become atrophied.

In conclusion, it should be noted that the style and nature of nuclear security cooperation could prove beneficial to unlocking the state of cooperative atrophy in which the NPT review process (among other multilateral non-proliferation venues) finds itself. By including states that possess nuclear weapons but are not members of the NPT, the Summit process, originally surrounded by a nuclear disarmament rhetoric, command important lessons to learn and implications for the NPT regime and on issues such negotiations on a WMD-free zone in the Middle East and on a fissile material cut-off treaty. The challenge ahead involves institutional design and how to create "durable institutions" to carry on the work and processes set in motion.

A preliminary lesson for effective nuclear non-proliferation cooperative arrangements should therefore be to look for a process whereby learning and knowledge are enriched, which in turn facilitates the reduction of uncertainty and encourages negotiated compromise. Regulatory informality, process flexibility and problem-solving approaches generate continuous improvement and allow for sustained interaction.

Chapter VI

Conclusion

This concluding chapter reviews the findings of the case studies from the perspective of the frameworks developed by international regime theories. It outlines preliminary observations about the theme of institutional effectiveness and, in particular, about the driving factors that make multilateral cooperative non-proliferation arrangements resilient over time. Based on secondary works and primary information gathered through interviews, this chapter also draws out some practical, yet necessarily partial lessons for adapting present and designing future non-proliferation arrangements.

Case study #1
The Treaty on the Non-Proliferation of Nuclear Weapons

The case of the NPT is the first organized attempt to govern nuclear proliferation risks. It represents an instance of institutionalized multilateral non-proliferation cooperation. Despite efforts at revitalizing its implementation review process, the NPT arrangement remains stagnant. and, as such, is a hostage to a bygone era. As Terence Taylor, Coordinator of the 1540 Group of

Experts, has argued, the NPT [and its review process] is "a prisoner of its time," incapable of adapting to present-day circumstances. [290]

Historically, exactly two decades before NPT negotiations started in 1965, the term "non-proliferation of nuclear weapons" was understood to serve two mutually reinforcing, complementary objectives. The first was to prevent the further spread to additional countries. The second was to eliminate them. The evidence of such understanding comes from a lesser known document, that is, the 1945 tripartite declaration on nuclear energy issued by the U.S., Canada and the U.K., as well as from the very first U.N. General Assembly resolution adopted in 1946. As much as atomic energy and its associated technology can be utilized for both civilian and military purposes, so too non-proliferation and disarmament were at the beginning inextricably linked. [291]

By the time NPT negotiations took off, the first objective took on a greater urgency to the detriment of the second objective. Not only is the title of the NPT crystal-clear about its real intentions, but also a cursory look at the secondary works consulted does confirm states' dissatisfaction with the outcome, even by those who participated in the negotiations within the Eighteen-

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[290] Interview with Terence Taylor, New York, June 2016.
[291] The text of the 1945 Declaration is available at: http://www.nuclearfiles.org/menu/key-issues/nuclear-energy/history/dec-truma-atlee-king_1945-11-15.htm. The text of the 1946 General Assembly resolution is available at: http://www.un.org/documents/ga/res/1/ares1.htm.

Nation Disarmament Committee. In this regard, it is worth recalling an overlooked statement by France on the NPT as uttered at a conference held at the University of Notre Dame in 1967, which still widely resonates to this day:

> "Non-dissemination is, assuredly, a problem. There is no advantage, there would even be great danger, in having more and more countries manufacture nuclear weapons. But one thing is much more important—those who possess nuclear weapons should not manufacture more but destroy the ones they have. Yet what is being proposed seems to us to arrive at the opposite result: preventing those who do not have and who, for the most part, cannot have nuclear weapons, from manufacturing them. But this in no way prevents those [possessing] such weapons from continuing to manufacture them and from maintaining their stockpiles. Consequently, this is not disarmament, and we think that we should not, by taking paths of this kind, lead the world [to] believe there is

> disarmament where, in fact, there is
>
> only a strengthening of the monopolies
>
> of the great powers."[292]

Though negotiated multilaterally, the U.S. and the Soviet Union took the lead and the NPT as adopted in 1968 was a product of bilateral negotiations. However, even if this can lead one to assume that hegemonic power or power-centered dynamics prevailed, a pragmatic alignment of two (short-termed) interests between the U.S and the Soviet Union transpires. First, there was the interest in preventing proliferation of nuclear weapons and weapon-related technology to the sixth-plus country. Second, there was the interest in keeping these weapons for the foreseeable future (and eventually, since 1995, indefinitely). Therefore, common interests and not purely power-based dynamics seem to be better suited at explaining NPT negotiations and, as such, its establishment phase.

Most crucially, the latter shared interest, that is, the maintenance of nuclear primacy by the recognized NPT's NWS, also commands explanatory heft when it comes to the disregard of arguments of principled idealism rooted in disarmament efforts. The short-termed self-interest of the two most influential stakeholders, that is, the USSR and

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[292] Dombey, "The Nuclear Non-Proliferation Treaty: Aims, Limitations and Achievements," *New Left Review* 52, 2009, 40.

the U.S. in particular, as well as the traction exercised by them over other parties during and after negotiations, including but certainly not limited to the allure of the problem-solving magic of nuclear energy, combined together and ultimately prevailed over normative considerations and disarmament aspirations. For example, the language of the NPT text lends explanatory support to safely conclude that its key purpose was to halt the spread of nuclear weapons. In addition, with reference to the negotiating history, disarmament references were originally not to be included in the text. Later on, a reference to disarmament was inserted in the non-legally binding, preambular part of the text, and eventually made its way into the text as article VI.

Though interest alignment by the two most "powerful" players partly explains the NPT's establishment, at the same time the NPT would have not seen the light in 1968 without the later inclusion of references to disarmament norms. Notably, such normative appealing succeeded in overcoming NPT's built-in inequalities in the form of differing, unbalanced rights and obligations. At the end of the day, only NPT's NNWS are subject to safeguards and inspections. This speaks volumes to the power of attraction exercised by well-crafted language and normative objectives and aspirations.

NPT implementation review has been greatly affected by exogenous and endogenous nuclear as well as non-nuclear dynamics, which are difficult to disentangle in order to give proper attribution. The 1995 legally-binding indefinite extension of the NPT, coupled with the two non-legally binding decisions on the Strengthened Review Process for the NPT and on the Principled and Objectives for Non-Proliferation and Disarmament, along with a controversial resolution on the Middle East, have been made possible in large part by events taking place outside of the halls of NPT Review Conferences. Great non-proliferation and disarmament hopes in the mid-1990s clearly facilitated the 1995 outcomes. However, primary sources in the form of insiders' written accounts converge on the pivotal role played by those leading and chairing reviews and meetings, their personalities and negotiating skills. This recognition points to the value of knowledge-based factors that weakly cognitivist regime approaches highlight. Education, experience and expertise can achieve short-term results, such as the agreement on Final Documents, as well as prospective long-term objectives, such as the revitalization of stagnant, atrophied arrangements. Most secondary sources by longtime NPT observers that had been consulted mention, in a way or another, that headways were made possible when creativity and innovative consensus-building approaches were

experimented, including the appointment of charismatic Presidents and experienced collaborators as well as the establishment of crosscutting groups to facilitate dialogue.[293] Innovation, as I have come to understand it, is basically the combination of creativity and outside-of-the-box thinking, on the one hand, with logic and pragmatism, on the other hand. It is the successful merging of interests and ideas in one single political project.

If NPT effectiveness depends on the chemistry between leaders, negotiators, chairpersons and presidents of Review Conferences, then this might bode ill for the future of the NPT, unless serious efforts to boost NPT-specific education, experience and expertise are pursued. In this regard, it is noteworthy to recall Potter's assessment of the 2005 NPT Review Conference, which failed to agree on a consensus Declaration. In his words, "few of these individuals [referring to Conference officials] had ever attended a Review Conference. Like their counterparts on most delegations, they had very little institutional memory or first-hand recollection of the significance of crucial bargains that had been struck at prior conferences, crises that had been narrowly averted, and lessons — both positive and negative — that should have been learned. Indeed, by far the most experienced

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[293] See, for example, Dhanapala (2005), Shaker (1980), Epstein (1975), Barnaby (1980), Potter (2005), Sanders (1995), Johnson (2007), Rauf (2000, 2016).

delegates at the 2005 Review were those from the NGO community."[294] Similar comments by several other participant observers pervade their analyses and, as such, they speak volumes to the significance of knowledge and its impact on effectiveness.[295]

During the phase of implementation review, a great deal of declaratory progress was made to reinforce the disarmament pillar of the NPT bargain and to counter the impression that the NPT was solely about horizontal non-proliferation, as evidenced by the 1995, 2000, and 2010 Reviews. However, at the operative level, vertical non-proliferation has been weakened by both weapons modernization programs pursued by NWS, as well as by the military postures of such possessors. The gap between declarations and postures has never been so wide. The current, endemic lack of progress in national reporting by all states, and in particular by NWS, show that the link between non-proliferation and disarmament is extremely frail to the point of no longer being satisfactory to the majority of states. An increasing disconnect between the norm of nuclear deterrence and the norm of nuclear disarmament is thus apparent. Despite the modest measures on reporting and on a more structured review process adopted in 1995 and 2000, the ensuing meager progress or,

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[294] Potter, "The NPT Review Conference: 188 States in Search of Consensus," *International Spectator*, 3/2005, 22.
[295] See, for example, Group of Eminent Persons, "Building Bridges to Effective Nuclear Disarmament," document available online at: http://www.mofa.go.jp/files/000349264.pdf.

better, non-existent improvement on these two crucial aspects of transparency, real confidence-building measures are lacking.

As a consequence, it is no wonder that given the institutional weaknesses and growing cognitive divergences among NPT parties, an overwhelming majority of states adopted a multilateral agreement to ban nuclear weapons, that is, the Treaty on the Prohibition of Nuclear Weapons. It cannot be ruled out that the next NPT Reviews will be affected, more for the worse than for the better, by such landmark agreement. Though this can be regarded as speculation, what can surely be concluded is that knowledge dynamics, especially in multilateral environments, as well as soft power skills, such as an appropriate use of persuasive arguments and transparent methods by experts that display both technical and policy expertise prevail over hard power methods, such as the use or threat of force or several other coercive tactics. For a system to be effective, inducements usually tend to pay off more than deterrents.

Endogenous features pertaining to the configuration and operation of a given arrangement cannot, in and of themselves, solve the problems affecting the NPT review process and cannot conceivably advance the goals of the NPT. They however can intervene to alter states' perceptions and interests, providing the background within

which less costly and less damaging forms of learning occur. In conclusion, knowledge-based theoretical approaches and, consequently, policy prescriptions so configured as to foster expertise, education and experience, are likely to prove more effective if the goal is to strengthen the regime.

While the NPT has been most successful at the beginning of its career and is now under ever-increasing strain, newer non-proliferation arrangements have gone quite the opposite way. To heal pathologies affecting the NPT, frameworks that create, maintain and foster expertise, education and experience and that establish processes by which these very knowledge-based factors can thrive are needed. As with so-called global and regional "centers of excellence" dealing with nuclear security, perhaps it would be high time to fashion similar templates for the NPT. Instead of learning from failures, which by definition always happens too late, it is time for the NPT arrangement to learn from other non-proliferation arrangements.

Case study #2

United Nations Security Council Resolution 1540

The second case of non-proliferation multilateralism that has been analyzed is represented by Resolution 1540 adopted by the U.N. Security Council. Though a resolution that was initially meant to last for two years, its evolution makes the case for considering it as a full-fledged arrangement. Its latest iteration under Security Council Resolution 1977, adopted in 2011, extends and expands the 1540 Committee's mandate for a decade until 2021. Though it is premature to know whether the 1540 arrangement will be extended indefinitely, the proliferation challenges it tackles are likely to persist in the future.

   As for the genesis and the establishment phase of the 1540 arrangement, the consensus-building approach emerges as both conventional and revolutionary in character. It was conventional because debates at the multilateral level took place first among like-minded states having the largest stakes (namely, the U.S. and the Russian Federation), they then expanded to include other Security Council permanent members, such as China, and the other ten non-permanent members. Finally, given the far-reaching implications of the measures called for, the entire U.N. membership was invited to participate and exchange their

views in an open session. Notably, this move has set the negotiating process apart with respect to previous Security Council practice. Debates expanded to include members of the non-governmental organizations and the media. Standard practice has it that discussions over draft resolutions would take place in closed sessions. As such, a week before its official adoption, an open meeting of the Security Council was held. Not even Security Council Resolution 1373 concerning measures to address the threats posed by terrorism, adopted in 2001, which most closely resembles the text, spirit and design of 1540, enjoyed as much involvement.

Interestingly, a less debated issue concerned the modus operandi of the future Committee to monitor implementation. Nothing was known about the Committee, but it was assumed it would operate according to standard practice followed by similar Committees. Spain stated that the Committee should be "governed by principles of cooperation, equal treatment and transparency, and technical assistance to states should be one of its key components."[296] With hindsight, the Committee would prove to be the most important element of the 1540 arrangement. Largely as a result of the negotiating approach followed, the resolution was adopted by consensus. Despite initial distrust about the scope of the resolution and the mandate

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[296] 4950th meeting of the Security Council, 22 April 2004, 7.

of the monitoring committee, the achievement of unanimity underscores the effects the negotiation process and the cooperative, inclusive approach had on the final outcome.

It is not straightforward, nor simple, to isolate and identify the factor(s) that regime approaches highlight in order to explain the formation of 1540. However, this case seems to prove neo-liberal and interests-based explanatory accounts rather than realist, power-based and knowledge-oriented, constructivist angles of vision. For example, the envisioning (yet not the full creation) of an international monitoring body adds to neo-liberal accounts of cooperation. In addition, the self-interest of the most prominent players worked in the direction of making them agree to cooperate, even if this would have entailed scrapping norms-based disarmament principles. Even the most vocal detractor of 1540 shared with the sponsors of the resolution the objective of preventing the proliferation of deadly weapons and technology to and by non-state actors. In this regard, it is to bear in mind, once again, the external environment. The terrorist attacks of 11 September 2001 still reverberated across the international community; the extent of Iran's undeclared nuclear activities in defiance of NPT obligations were surfacing in 2002; the Iraq war in 2003 carried out for its alleged (and later proved to be false) possession of WMD cast a dark shadow over U.S. intentions in the region;

in the same year, North Korea withdrew from the NPT and a global nuclear smuggling network was unmasked in 2004. Counterfactually, were these attention-riveting events not present, 1540 would have likely proved more challenging to negotiate and perhaps would have not even been conceived. Idiosyncrasies and the disentanglement of external and internal factors prove challenging and is one of the reasons for the paucity of related studies. The processes followed in negotiating a highly charged measure contradicts past practice of the Security Council. The very fact that 1540 was approved by unanimity (not by consensus) testifies to the 'good offices' pursued by the sponsors of the Resolution.

Be as it may, power-based interpretations do not hold against the negotiation phase of 1540. Given the participatory and somewhat transparent process, U.S. hegemony (which is not the same as leadership — a subject that is not dealt with under realist approaches to international regimes) or even P-5 hegemony can be safely ruled out. For example, even if the underlying reasons remain unclear, the U.S. resisted the idea of having a subsidiary body of the Security Council, the 1540 Committee, monitoring and reviewing implementation. Under a similar perspective, the U.S. initially omitted any disarmament reference in the draft texts. In short, the unanimous adoption of 1540 does not entirely reflect the

preferences of the initiators and the U.S. in particular, which is conventionally depicted as the most powerful actor in the international system. Further, while certainly relevant, especially in the aftermath of the Resolution's adoption, normative concerns, including disarmament and the peaceful, legitimate applications and uses of technology, were circumvented by the vocalized urgency to address non-state proliferation and terrorism in a comprehensive manner.

Despite the evidence that the new arrangement and the contextual background within which Resolution 1540 was conceived was seen by some delegations as yet another unnecessary imposition of the advanced global North against the developing global South, or as yet another exposure of the cleavage between haves and have-nots, thus suggesting a weakly power-based dynamic, knowledge- and power-based factors mattered less than interest-based dynamics. Relatedly, besides normative concerns, legal anxieties were also bypassed. While principles of international law have it that binding requirements for states to comply with should come with their consent and involvement, mostly in the form of treaties and conventions freely arrived at, Resolution 1540 created a binding regime that circumvented traditional (and cumbersome) decision- and law-making processes at national and international levels. As a final note highlighting the

relative validity of institutional factors is the envisioning and evolution of a monitoring committee. Since 2004, the mandate of the Committee has been extended unanimously on three occasions.

When it comes to implementation and its review, the tasks performed by the Committee and its approach to implementation are highlighted. To begin with, in contrast with the NPT arrangement, reviews are carried out on an annual basis. In addition to these yearly stocktaking exercises, there have been two comprehensive reviews in 2009 and 2016. A first observation relates to the presence of different actors that are involved in the process. Contrary to the NPT review process, states and governments are not the only implementers and participants in review processes. While it is true that a large number of non-governmental organizations have gained access to NPT reviews and those NPT meetings that are open, 1540 implementation is characterized by the active involved of those actors that deal with subject matter issues on a daily and practical basis. Rather than an emphasis on the quantity of those 'participating' in NPT reviews, a focus on the quality of 'participation' is what makes the difference. For example, operators, managers, regulators, and the industry sector in general are part and parcel in the implementation (review) phase of Resolution 1540 and its successor Resolutions. A second observation relates to

the fact that practically all issues that were debated during negotiations have disappeared from the agenda. For example, the most controversial issues included the legally binding nature of the provisions; the legislative activity of the Security Council and the consequent bypassing of national parliaments; the appropriateness of the use of Chapter VII and, relatedly, whether non-compliance would automatically lead to enforcement actions; the scope of the measures called for in the Resolution; the emphasis on non-proliferation to the detriment of both disarmament and peaceful cooperation; and, finally, the functions, roles and composition of the follow-up monitoring committee. In interviews conducted with former and current members of the so-called 1540 Group of Experts, there is evidence that the activities carried out by these independent consultants in the initial period since the adoption of Resolution 1540 until 2009, the year in which the first comprehensive review was conducted, focused on addressing these controversies in a non-adversarial, diplomatic and consultative manner. Once these challenges were cleared, the overall expertise of the 1540 Committee's Group of Experts shifted from a political to a technically bent profile. This was a recurrent common theme among the interviewees. Similarly, while the work of the Committee initially focused on the quantity of reports submitted, nowadays the focus has

shifted to considering the quality of incoming reports by collecting and compiling lists of effective implementation practices.

At the same time, it became clear that the initially slow national implementation progress was not attributed to states' lack of intention and interest, but rather to states' lack of human and financial capacities, as well as states' lack of awareness of the implications of not fulfilling 1540-related obligations. As such, implementation challenges depended more on states' knowledge deficits rather than on states' unwillingness to cooperate. The Group of Experts was and still is actively engaged in a variety of awareness-raising and outreach efforts at all organizational levels — spanning from ad-hoc initiatives, consultative meetings, annual programs to roundtables, parliamentary conferences, seminars and joint projects — to promote, discuss and instruct how states and other stakeholders can develop and maintain the necessary political will, legal framework and institutional structures, thereby fulfilling 1540 obligations.

In addition, given the meager, derisory budget allocated to the 1540 Committee and to its Group of Experts to fulfill its program of work, it is striking to record positive results as well as an ever-expanding network of 1540 professionals around the world. This attests to the underutilized power of cooperative,

symbiotic relationships established over the course of a decade by committed officials. As one interviewee put it, the key challenge today is to sustain a culture of non-proliferation across government, academic and industrial sectors.

Knowledge-based dynamics loom large in this picture and seem to play a bigger role than mere power-based, coercion-oriented approaches and interest-driven factors. The same interest-based factors are shaped by knowledge dynamics, as was the case during the initial period of 1540 existence. The ways in which knowledge is organized explain the relative success of this arrangement. Emphasis on knowledge and capacity building is a recurrent theme in specialized meetings dedicated to 1540. Over time, a variety of such knowledge-enhancing tools have been created. National implementation action plans, national points of contact that unite disparate government agencies as well as private sector stakeholders, regional points of contact, centers of excellence on chemical, biological, radiological and nuclear weapons, peer reviews and visits to states that enhance overall knowledge and ultimately affect implementation are used.

Recently, numerous former expert consultants that were part of the 1540 Group of Experts gathered together in 2015 in order to assess the status of Resolution 1540 and to chart a way forward for its ensuing arrangement.

Notably, they issued a report that contains their reflections.[297] Together with the publication of the 1540 Compass, an electronic journal that focuses on 1540 implementation issues, such activities are meant to leverage knowledge-based dynamics with a view to reinforce institutional and cognitive milieus. Similarly, more has been done across the 1540 domain in fostering the linkage between non-proliferation and disarmament and between non-proliferation and development. Though being far from the exclusive governing dynamic moving multilateral cooperation, the contemporary acceptance by the international community, including by once recalcitrant states and regional groups, as well as engagement with research centers, industry and the private sector, speak volumes to the power of knowledge as a driving factor.

In conclusion, the 'non-standard' operating procedures and the broad approach to arranging implementation and managing its review experimented by U.N. Security Council Committee 1540 and its Group of Experts in a non-confrontational relationship carries explanatory heft. It surely is a relative success compared with traditional cooperative instances across the nuclear non-proliferation domain, such as is the case with the NPT review process. It is also a success story relative to similar Security Council-mandated Committees, such as has

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[297] "Towards the 2016 Comprehensive Review: Former experts assess UNSC Resolution 1540," edited by Kasprzyk et al. Institute for Security Studies.

been the case with U.N. counter-terrorism sanctions committees and regimes. In light of the contested nature of 1540 and the questions raised by delegations during its negotiation, the engagement by the Committee and its group of experts speaks volumes to the largely positive repercussions on effectiveness. A contrast among non-proliferation governance arrangements materializes. While the NPT arrangement was at the beginning strong but further deteriorated, the 1540 arrangement was initially weak but further developed into a more effective and shared tool.

Case study #3
The Nuclear Security Summits

The Nuclear Security Summit process is the latest iteration in a series of efforts aimed at raising the awareness of the need for institution-building and operational coordination in mitigating nuclear proliferation risks. Though a time-limited initiative, it falls within phenomena of institutionalized multilateral non-proliferation cooperation. A peculiarity of this case is that this multilateral effort is not based on a treaty or on a U.N.-sponsored resolution. Rather, it has been spurred, politically, by former U.S. President Obama and his administration in 2009. As sources consulted

evidenced, the idea of gatherings of high-level government officials discussing matters of nuclear proliferation and terrorism has been promoted by the Belfer Center for Science and International Affairs.

However, far from being branded as a U.S.-centered initiative or even as an American conspiracy to shift the nuclear non-proliferation agenda away from disarmament and verification matters, the ownership of the Nuclear Security Summit process is multilateral as it mainly rests within the three hosting countries of the U.S. (for the kick-off as well as for the final Summits in 2010 and 2016, respectively), South Korea (2012) and the Netherlands (2014), each of which contributed to the expansion and the deepening of the nuclear security agenda in their own ways. Further, far from being solely a biannual gathering of high-level officials, and Heads of State and Government in particular, it is more appropriate to describe the Summits as a learning process. Advanced multilateral, multi-stakeholder preparatory work across government, academic and industry sectors characterize this case. In addition, the four biannual political gatherings took place almost simultaneously, in space and time, as the Nuclear Knowledge and the Nuclear Industry Summits, meetings of members of think tanks, research centers and academic experts on nuclear policy and of representatives of nuclear regulators, operators and the

wider private sector, respectively. Membership in both side-Summits gradually increased and it was wide in numbers and geographical representation. Further evidence that disproves arguments related to U.S. hegemony is brought by the fact that these two side-Summits events, and especially the NGO Summits, were not included in the original plan.

States' willingness to participate in the process can be traced back to former U.S. President Obama's speech in Prague in 2009, which charted a new path by which the U.S., in tandem with multilateral institutions, and the international community as a whole, could contribute to international security and progress across the nuclear domain more substantively. Clearly, nuclear security, though shrouded in secrecy, confidentiality and kept within the realm of domestic affairs of states, is less controversial to negotiate on than highly charged topics, such as nuclear disarmament. Common interests and shared ideas were aptly captured by Obama's speech as well as by his long-lasting personal, academic and political involvement with this issue. The initiative appealed to several political leaders around the world, independently from their objectively or subjectively assessed risk perceptions and self-interests.

Other reasons for participating in the process are rooted in norms and principles. At one level, Obama's

engagement in the field explains his foreign policy focus on the matter. At another level, his views on nuclear arms control and disarmament as well as a renewed emphasis on multilateral approaches to international affairs in general, and international security in particular, explain other countries' willingness to join. At yet another level, the peculiar decision-making approach followed during the process was intended to spur action, while avoiding the traditional political difficulties of agreeing to a multilateral treaty and making it domestically enforced, which is sometimes not a smooth process. The history of the CTBT attests to this fact. With the Summit process, more difficult treaty negotiation processes were sidestepped in favor of arguably more action-oriented and timely processes at the highest possible political level, along with several rounds of negotiation and the development of consolidated interagency national points of contacts.

One of the most far-reaching decisions taken at the final Summit of 2016 was to harness the wealth of nuclear security knowledge gained thus far and working level relationships created during the seven-year-long Summits process by ensuring that the Sherpa network, rebranded "Nuclear Security Contact Group," would meet regularly once or twice a year at the margins of the IAEA's General Conference. Notably, recognizing the interests of those

states that have not participated, the Nuclear Security Contact Group is open to other countries. As such, the Summits shifted from an exclusive exercise in which only participating countries could share their views to an inclusive process, which is yet to show its full potential.

Another far-reaching innovation brought by the Summit process relates to a long-standing obstacle to joint nuclear non-proliferation decision-making. The greatest weakness of the whole process, namely the consensus rule and the watered-down language it usually entails, were successfully overcome with the novelty of sponsoring additional voluntary, non-legally binding commitments, called 'gift baskets'. This novelty has been a key driver for encouraging states to go beyond lowest common denominator consensus agreements. This cooperation-plus form of engagement highlights that the conventional stumbling blocks of sovereignty and secrecy do not necessarily make international cooperation impossible to achieve and sustain. Recently, the 'gift basket' innovation has been adopted in other multilateral negotiations, such as the Paris Conference on Climate Change and within the global health security agenda.[298]

To sum up the analysis of the establishment phase, it should be added that more than changes in U.S. domestic

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[298] Interview with Corey Hinderstein, U.S. Department of Energy, National Nuclear Security Administration, Washington, D.C., February 2016.

politics environment, as highlighted within the neoliberal camp of international regime scholars, or even more than U.S. dominant position, as highlighted by neorealist accounts, the evidence obtained through interviews, participant observation and a review of the 'grey literature' shows that the principled ideas espoused by former U.S. President Obama as a result of his experience, as well as the timing of the initiative, played a prominent role. As regards timing, non-proliferation analysts tellingly describe the 2009-2010 period as a nuclear spring — a particularly cooperation-prone and idyllic historic period for nuclear non-proliferation and disarmament. Further, contrary to neorealist and liberal explanations, as the genesis of the initiative demonstrates, inter-state cooperation is much more than cooperation between states and is often the result of an emerging consensus achieved by a plurality of actors working across different professional groups.

 Relatedly, far from being the result of an epistemic community on nuclear security, this case nonetheless shows the relevance of academic and policy networks as vehicle for transmitting actionable policy ideas. Along the same lines, and surprisingly, states participated for reasons that are different from, and greatly diverge with, self-interested behavior. The collected evidence points to the power of intangible and subjective powers, such as

personality, ideas and prestige. In essence, constructing multilateral cooperation in this case has required learning and knowledge build-up, as well as persuasion in the form of appropriately crafted heuristics, all of which are relevant for exploring and explaining the rise and fall of rules-based forms of multilateral nuclear non-proliferation cooperation. Such dynamics are well described by, and pertain to, the cognitivist-constructivist camp of international regime analyses, and particularly the analytically soft-cognitivist denomination.

As for the implementation, high-level political attention has given the topic of nuclear security a sense of greater urgency. High-level, focused and sustained attention resembles the role that crisis or accidents have played across the nuclear domain and arguably continue to play in behavioral, policy and institutional change and adaptation. In other words, high-level attention and crises alike call attention to a given problem in a dramatic and sudden way that instantly reverberates across space and time. In the phase of implementation, lower-level operational networks have benefitted from the sense of urgency attached. For example, it is notable that most if not all commitments and pledges undertaken since 2010 have been accomplished. To name but a few accomplishments, suffice to say that well over 40 Summit countries have

engaged in capacity-building exercises, whether through the provision of specialized training or the establishment of national and regional Centers of Excellence on topics relevant to nuclear security. Over 30 countries have updated national nuclear security laws, regulations and organizational modus operandi. Over 20 countries have hosted peer review missions. Three original and key outsiders to the Summit process, such as China, India, and Jordan, have later subscribed to the Strengthening Nuclear Security Implementation 'gift basket'.

When it comes to post-implementation monitoring and review, governmental actors were supported by a myriad of other actors, including non-governmental organizations and research centers, that have benchmarked and checked progress made by individual countries and that have actively engaged with governments on threat reduction and information sharing efforts and lessons learned about communicating effective nuclear security practices. As a consequence, knowledge-based factors are reinforced. Relatedly, rather than using punitive measures such as sanctions, compliance-inducing measures have tended to favor the use of non-legally binding mechanisms and voluntary approaches to compliance, such as those advisory services and peer review missions provided by third parties. Whereas binding law certainly forms the bedrock of the nuclear non-proliferation regime, the evolution of

the regime shows a tendency to develop and follow voluntary standards and codes of conduct, not as a substitute for treaty law but rather as additional reinforcing tools. In the final analysis, the Summits approach has raised political awareness of the problem, spurred new commitments by governments in novel ways and generated new forms of cooperation above and beyond the NPT-based regime. To the staunchest supporters of nuclear security, the achievements of the Summits may appear modest, but without this initiative, even these would have not been feasible. By no means have the Summits been an unqualified success in dealing with the problems and risks of nuclear proliferation in a 'state-less' environment. However, the efforts to strengthen and to energize cooperation in this field stand out, particularly at a time when traditional multilateral mechanisms have become rather stagnant. By including states that possess nuclear weapons but are not parties to the NPT, the Summit process, originally surrounded by a nuclear disarmament rhetoric, command important lessons to learn and implications for the NPT-based regime and on issues such negotiations on a WMD-free zone in the Middle East and on a fissile material cut-off treaty.

So, when, why and how are multilateral efforts to mitigate proliferation risks proving to work? There are no

definitive answers, nor generalizable insights to draw from just a pool of three cases, as to what makes multilateral cooperative non-proliferation arrangements effective and whether their modus operandi explain variation in goal attainment. Nonetheless, a useful guiding dynamic for good enough multilateral non-proliferation arrangements transpiring from this study would be to look for multiple interactive processes whereby learning and knowledge are stimulated, which, in turn, may facilitate the reductions of uncertainty and political friction, thereby encouraging negotiated compromise. Non-proliferation approaches that favor recursive adaption and harness knowledge are best suited for the generation of continuous improvement and the facilitation of sustained interaction. Preliminary empirical evidence corroborates that multilateral governance templates that are likely to deliver are those that promote a diffused organization of several national, regional and global implementers in a problem-solving, non-adversarial fashion, that incentivize learning and foster knowledge exchange, that create a healthy profusion of monitoring and verification tools to tame uncertainty and that facilitate synergistic partnerships among stakeholders and peers.

The most successful instance of institutionalized multilateral non-proliferation cooperation is arguably

exemplified by the 1540-centered regime. Its modus operandi is the closest empirical example across the nuclear domain of new modes of multilateral governance that depart from traditional intergovernmental modes of governance and that ultimately seek to combine state-centered actors with other stakeholders, uniform legally-binding treaties with voluntary and revisable laws and regulations, as well as classic enforcement measures with innovative problem-solving approaches. The NPT arrangement arguably epitomizes the least successful instance of multilateral non-proliferation cooperation. Among the case studies, its modus operandi is the closest example of old-fashioned modes of governance, which emphasizes the centrality, if not exclusivity, of change-averse and least adaptable state-centric actors, and the maintenance of the status-quo over the combination of creativity with logic.

Appendix

List of interviews

Corey Hinderstein, Senior Coordinator for Nuclear Security and Nonproliferation Policy Affairs, U.S. Department of Energy, National Nuclear Security Administration, Washington, D.C. 25 February 2016.

Deepti Choubey, Senior Fellow, Johns Hopkins University, Paul H. Nitze School of Advanced International Studies, Washington, D.C. 23 February 2016.

Kelsey Davenport, Director for Nonproliferation Policy, Arms Control Association, Washington, D.C. 24 February 2016.

Matthew Bunn, Professor of Practice, Co-Principal Investigator, Project on Managing the Atom, Belfer Center for Science and International Affairs, Cambridge, communications, 2015–16.

Michael Rosenthal, UNSCR 1540 Group of Experts, U.N. Headquarters, New York, 30 April 2016.

Michelle Cann, Director of Operations and Projects, Partnership for Global Security, Washington, D.C. 24 February 2016.

Nickolas Roth, Research Associate, Project on Managing the Atom, Belfer Center for Science and International Affairs, Cambridge, communications, 2015–16.

Richard Cupitt, former U.S. 1540 Coordinator and member of the Gropu of Experts, Washington, D.C. 18 October 2012.

Samantha Pitts-Kiefer, Senior Director, Global Nuclear Policy Program, Nuclear Threat Initiative, Washington, D.C. 23 February 2016.

Sharon Squassoni, Senior Fellow and Director, Proliferation Prevention Program, Center for Strategic and International Affairs, Washington, D.C., 23 February 2016.

Terence Taylor, Coordinator of UNSCR 1540 Group of Experts, U.N. Headquarters, New York, 30 April 2016.

Thomas Wuchte, Head on Anti-Terrorism Issues, Organization for Security and Co-operation in Europe, correspondence, August 2016.

William Tobey, Senior Fellow, Belfer Center for Science and International Affairs, Cambridge, April 2016.

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