Dr. Jens Heinrich
Institute of Political Science
Faculty of Economics and Social Science
University of Rostock
jens.heinrich@uni-rostock.de

Nuclear Weapons, Unilateral Steps, and Gradualism[1]

Abstract:

Given the current global nuclear dynamics and challenges such as North Korea's nuclear weapons, modernization of nuclear arsenals, and rising between nuclear-armed states, arms control as a strategy in order to avoid nuclear wars, to reduce tensions, and contribute to stability (and arms reductions) is required more than ever before. Unfortunately, the formal arms control approach that prefers multilateral negotiations and treaties is facing challenges and it is unlikely that formal negotiations leading to treatise will be successful in the short term in regional settings like East or South Asia. The paper takes this as a starting point and introduces a more informal strategy called gradual arms control. The goal is to identify and analyze potential options and chances as well as limits and constraints of the gradual arms control strategy. For this purposes, a framework based on specific areas and criteria and conditions is established and taken to the historical record. The paper finds that there had been several developments in international politics that fit the strategy of gradual arms control and that this approach can be useful in today's South Asia as well.

1. Introduction

The proliferation of nuclear weapons and the dangers of global thermonuclear war are far from being the most pressing challenges facing the international community – this assumption does not seem to be very controversial. Other issues such as global warming and its security implications, international terrorism and the global war on terror, local wars, economic crises, and the rise of populist movements in Europe, the USA and Asia are top priorities of the political (science) agenda. Nuclear weapons, one could say, play almost no role in international relations of the 21st century.

But the opposite is closer to the truth and a deeper analysis shows that nuclear weapons are still relevant to international politics and political science. All nuclear powers are modernizing their arsenals.[2] The United States are in a process of building new strategic bombers and submarines;

1 Parts of this paper are based on my Ph.D. thesis submitted in November 2015 to the Faculty of Humanities at the Otto-von-Guericke-University Magdeburg. See: Heinrich, Jens (2017): Rüstung und Rüstungskontrolle in Asien. Zum Stabilisierungspotential einer sicherheitspolitischen Strategie [Arms and Arms Control in Asia]. Wiesbaden. Springer Fachmedien. Online: https://link.springer.com/book/10.1007%2F978-3-658-17715-7. All quotes were translated by the author.

2 For an overview of global nuclear weapons stockpiles see Kile, Shannon N.; Kristensen, Hans M. (2017): Trends in World Nuclear Forces, 2017, SIPRI, Stockholm.

Russia is modernizing its missiles and China, India, and Pakistan are developing new delivery systems; Pakistan is relying on Short-range ballistic missiles (SRBMs) that are accident-prone and invite miscalculations; North Korea conducted several nuclear tests and expands its nuclear stockpile; In the NATO, the US is confronted with a lack of deterrence credibility vis a vis Russia, and Germany is debating its own nuclear future (however, this debate does not reflect any political decision).[3] All of this is happening in unstable times with growing tensions between major powers. Potential nuclear flashpoints are located in Asia, where, as Robert Ayson claims it, "[a]lmost every important great power relationship (…) has a significant nuclear weapons component or context"[4] Given all these challenges – and the recently negotiated nuclear ban treaty is unlikely to change this state of affairs – nuclear arms control is required more than ever.

Unfortunately, formal and treaty-based arms control as an instrument to reduce tensions, help to avoid the use of nuclear weapons and keep relations stable is in a deadlock.[5] The non-proliferation treaty (NPT) is weakened by internal contradictions and enduring tensions between nuclear weapons states (NWS) and non-nuclear weapons states (NNWS). The comprehensive test ban treaty (CTBT) did not enter into force yet and a ratification of all relevant states is unlikely. The working plan for a fissile material cut off treaty (FMCT) is stuck in the Conference on Disarmament (CD) due to the opposition of states like Pakistan. Regional arms control and disarmament treaties like the Intermediate-range Nuclear Forces (INF) treaty and the adapted treaty on conventional forces in Europe (CFE) are facing challenges. And finally, regional nuclear weapons free zones like the Southeast Asian Nuclear Weapons free Zone (SEANWFZ) are not accepted by the NWS. In other words: in times of need, the formal and treaty-based arms control is approaching its limits.[6] One expert wrote provocatively "Treaty-based arms control seems to be out."[7]

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3 See The Economist (2017): Eine deutsche Atombombe. Germans are debating getting their own nuclear weapon, online at https://www.economist.com/news/europe/21717981-donald-trumps-questioning-natos-credibility-has-berlin-thinking-unthinkable-germans-are (accessed 01.08.2017); Herzog, Rudolph (2017): German Nukes would be a National Tragedy, Foreign Policy, online at http://foreignpolicy.com/2017/03/10/german-nukes-would-be-a-national-tragedy/?utm_content=buffer27012&utm_medium=social&utm_source=twitter.com&utm_campaign=buffer (accessed 01.08.2017); Joffe, Josef (2017): Atommacht D?, Warum Deutschland die Bombe nicht will und sie auch nicht bauen kann, Die Zeit, online at http://www.zeit.de/2017/08/ruestung-atomwaffen-atommacht-deutschland-zeitgeist (accessed 01.08.2017).

4 Ayson, Robert (2013): Arms control in Asia: yesterday's concept for today's region? In: Australian Journal of International Affairs, Vol. 67, No. 1, pp.1-17, here p. 3.

5 Dunn, Lewis; Alessi, Victor (2010): Arms Control by other means. In: Survival, Vol. 42, No. 4, pp. 129-140, here p. 129.

6 This is the famous arms control paradox articulated by Colin Gray: when arms control is needed most, it is not realistic; if it is a realistic option, it is not needed.

7 Neuneck, Götz (2008): Abrüstung und Rüstungskontrolle, ein Blick zurück nach vorn. In: Gießmann, Hans J./Neuneck, Götz (ed.): Streitkräfte zähmen, Sicherheit schaffen, Frieden gewinnen. Festschrift für Reinhard Mutz. Baden-Baden: Nomos, pp. 128–143, here p. 128. Own translation [J.H.].

This paper takes this skeptical view as a starting point and tries to identify, analyze and evaluate the options and constraints of informal arms control approaches esp. of the gradual arms control as an alternative strategy.[8]

In the following chapters I will introduce briefly to the concept (or theory) of arms control. A focal point will be set on the narrow and exclusive perspective on arms control as a formal process. The third chapter deals with informal strategies and illustrates several advantages and disadvantages. The fourth part gives a short introduction to the gradual arms control strategy and develops a criteria-based framework for analytical purposes. The fifth chapter will testify the gradual strategy. Here I will look for some historical and current examples where this strategy might have worked (and how). The second sub-chapter will look at South Asia – one of the toughest regions for arms control. Can the gradual arms control strategy work? Finally, a conclusion will summarize the results and will give a prospect for future arms control initiatvies.

2. The Strategy of Arms Control

In 1962, a group of scholars published a book titled "Arms Control, Disarmament, and National Security" – a "founding" document of arms control theory. For the first time, experts undertook a comprehensive analysis of problems like *nuclear weapons*, *deterrence*, *disarmament*, and *security*. At the center of their thoughts was the question of how a nuclear war could be avoided. Arms control was one of the proposed strategies to deal with the issues mentioned above. The authors, at least those who were concerned with arms control, highlighted three main goals.

- The avoidance of nuclear war/nuclear weapons use (stability);
- Damage limitation, should war occur; and
- Reduction of defense spending necessary to achieve and maintain stability (via deterrence)

Harald Müller has recently argued that the actual goal of arms control is to change and transform conflicts between nuclear weapon states and bring the logic of deterrence to an end.[9] From this perspective, the threat of nuclear retaliation no longer serves peace and stability.[10] According

8 See: Ramberg, Bennett (Hg.) (1993): Arms Control without Negotiation. From the Cold War to the New World Order. Boulder/London: Lynne Rienner Publishers. Robert Ayson formulated a similar research interest in a 2013 article when he asked: "[I]n a region where formal arms control measures seem so scarce and almost alien to received wisdom, what hope is there for understandings built instead around informal and unilateral measures?", Ayson: Arms control in Asia, p. 1.

9 See Müller, Harald (2014): Großmächtebeziehungen, Abschreckung und nukleare Abrüstung: Ein Perspektivwechsel. In: Zeitschrift für Friedens- und Konfliktforschung, Vol. 3, No. 1, pp. 99–129.

10 Müller's approach to arms control is similar to the gradual strategy as I will show later.

to Müller, arms control is a road to disarmament and should not make the existence of nuclear weapons a permanent state.[11]

But there is not only a distinction between arms control goals and the role deterrence has to play in achieving or undermining them (school of nuclear stability/deterrence VS. school of nuclear transformation/disarmament). It is also possible to differentiate between various forms of arms control. On the one hand is the *formal arms control* school that. For this school, arms control is a formal and bilaterally and/or multilaterally negotiated process resulting in a legally binding treaty that has to be ratified to enter into force. This form is characterized by specific obligations regarding verification and transparency. On the other hand is the *informal arms control school*. Advocates of this school argue that even informal, unilateral and/or reciprocated steps are part of the arms control toolbox.

2.1 The formal arms control school

Proponents of the formal school tend to equal nuclear arms control with treaties between nuclear weapons states. Treaties, if one follows this line of thought, are a result of negotiations and subject to verification. Götz Neuneck of the *Institute for Peace Research and Security Studies Hamburg* (IFSH), argues that multilateral treaties and compliance with them are a "prerequisite for functional arms control."[12] For other scholars the "cooperative and multilateral [i.e. treaty-based] control of arms dynamics and disarmament is basically reasonable and preferable."[13] Two experts in this field clearly stated that "arms control is subject to formal and bi- and multilateral diplomacy and conducted in international bodies e.g. the United Nations."[14] And Sigurd Boysen pointed out that "arms control seeks constraints and reductions through legally binding treaties."[15] The formal arms control school treats informal steps like unilateral and gradual initiatives only as useful instruments that "stimulate a process that leads to binding treaties."[16]

11 This is totally different from the views Schelling and others held. They saw in arms control a way to stabilize deterrence.

12 Neuneck, Götz; Mölling, Christian (2005): Rüstungskontrolle – veraltet, überflüssig, tot? In: Neuneck/Mölling (eds.): Die Zukunft der Rüstungskontrolle. Baden-Baden: Nomos (Demokratie, Sicherheit, Frieden, 173), pp. 29–39, here p. 31.

13 Becker, Una; Müller, Harald; Rosert, Elvira (2008): Einleitung: Rüstungskontrolle im 21. Jahrhundert. In: *Die Friedens-Warte* 83 (2-3), pp. 13-33, here p. 13.

14 Sauer, Frank; Schörnig, Niklas (2014): Rüstung und Rüstungskontrolle. In: Enskat/Masala (eds.): Internationale Sicherheit. Eine Einführung. Wiesbaden: Springer VS, pp. 121–156, here p. 125, italics added.

15 Boysen, Sigurd (1984): Zum Verhältnis von operativen und rüstungskontrollpolitischen Kriterien. In: Krell/Forndran (eds.): Kernwaffen im Ost-West Vergleich. Zur Beurteilung militärischer Potentiale und Fähigkeiten. Unter Mitarbeit von Hans-Joachim Schmidt. Baden-Baden: Nomos (Veröffentlichungen der Deutschen Gesellschaft für Friedens- und Konfliktforschung), pp. 157–172, here p. 158.

16 Becker/Müller/Rosert: Einleitung, p. 18.

Arms control negotiations and treaties have in the past contributed to stability and disarmament. In international politics, treaties have the advantage of creating stable expectations about the other side's intentions and behavior, and consequently they help to reduce insecurity in international relations and minimize the security-dilemma.[17]

But history has also shown that treaties by far are not the ideal solution and sometimes even legalized arms build-ups due to the fact that some technologies and weapons were neither explicitly nor implicitly prohibited.[18]

> Classical arms control remains important but a legally binding and verifiable treaty is not always the most successful model of cooperative regulation. [19]

The above mentioned focus on treaties, negotiations, and formal agreements as a "prerequisite for functional arms control" and as "desirable" and "reasonable" is problematic from a political science perspective as well as for the practice of international politics. *First*, informal steps and unilateral initiatives have always been part of the arms control theory. The "founding fathers" of classical arms control like Thomas C. Schelling, Hedley Bull or Josef Goldblat argued from the beginning that arms control is more than treaties and goes beyond formal multilateral negotiations. As Jeffrey Larsen put it a few years ago, arms control is a

> process involving specific, declared steps by a state to enhance security through cooperation with other states. These steps can be *unilateral*, bilateral, or multilateral. Cooperation can be *implicit* as well as explicit.[20]

Others argued similarly

> Maybe arms control is destined to be something more informal than is suggested by the great diplomatic deployments in Geneva. Maybe limited measures of arms control can be arrived by at quite indirect and incomplete communication; maybe they will take the form of a proposal embodied in unilateral action (or abstention from action), which continues if matched by corresponding action on the other side and only for so long as it is.[21]

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17 But this is not the only effect of international regimes. Regimes are not only regulative and stable over time but also constitutive. Membership in certain regimes serve not only a rational purpose but can also contribute to identity formation ("good citizenship"). For a critique of (treaty-based) formal institutions see Mearsheimer, John J. (1995): The False Promise of International Institutions, in: International Security, Vol. 19, No. 3, pp- 5-49.

18 See Sulivan III, Michael J. (): Conference at the crossroads: Future Prospects for the conference of the committee on disarmament, International Oragnization, Vol. 29, No. 2, pp. 393-413, here p. 402.

19 Meier, Oliver (2013): Gibt es einen Formwandel in der Rüstungskontrolle? In: *S+F Sicherheit und Frieden* Vol. 31, No. 2, pp. 99–101, here p. 101.

20 Larsen, Jeffrey A. (2009): An Introduction to Arms Control and Cooperative Security. In: Larsen/Wirtz (eds.): Arms Control and Cooperative Security. Boulder: Lynne Rienner Publishers, pp. 1–20, here p. 3, italics added.

21 Schelling, Thomas C. (2005): Reciprocal measures for arms stabilization. In: Dædalus Vol. 134, No. 4, pp. 101–117, here p. 107.

> To approach arms control nearly exclusively as a process of formal negotiation is to fail to understand the nature and opportunities of this subject.[22]

> The long-standing tendency to view arms control as a product of formal treaty-making, while hard to shake, misses a large part of what is possible. As arms control theory came into its own in the late 1950s and early 1960s to deal with the thermonuclear era, some of its leading proponents drew attention to the *value of informal understandings and unilateral restraint*. Their prescriptions are not out of place half a century later in Asia.[23]

A *second* problem is that the conditions for arms control negotiations and treaties are not always met. Some regional contexts are too demanding for even modest formal agreements on reducing or limiting nuclear weapons.[24] States that see each other as threats and that are locked into a security dilemma are hardly willing to cooperate and they often lack the necessary level of mutual trust. Mutual suspicion and the fear of cheating are limiting factors when it comes to verification. History has shown that verification was (and still is) among the most controversial elements of formal arms control. During the Cold War, the Soviet Union did not allow intrusive on-site inspection because it thought the United States would spy. For the US, treaties without tight verification were unthinkable because without verification instruments, the window for cheating and exploitation would have been wide open.

Other factors that undermine formal processes are status and prestige. Formal and treaty-based arms control is a direct recognition of the other state as a "partner" and granting this status means that all actors involved treat each other as (almost) equal. Christopher Daase has argued that "the central idea of the Westphalian System, and indeed of the classical arms control doctrine, is the equality of states in status and legitimacy."[25] Treaties can formalize equality and striving for equality and status is enforced by post-colonial and anti-imperial narratives. But, as Daase pointed out too, "it is obvious that states are unequal in terms of power, prestige, and moral standing."[26] Treaties, legally-binding and formal agreements can contribute to equality

22 Gray, Colin (1993): Nuclear Strategy, Force Procurement, and Deployment as Arms Control. In: Ramberg (eds.): Arms Control without Negotiation. From the Cold War to the New World Order. Boulder/London: Lynne Rienner Publishers, pp. 97–111, here p. 97.

23 Ayson: Arms Control in Asia, p. 8. Italics added.

24 For a comparative analyses of informal and formal strategies in deadlock-, prisoner- and stag-hunt games and the chances of formal arms control see: Downs, George W.; Rocke, David M.; Siverson, Randolph M. (1985): Arms Races and Cooperation. In: World Politics Vol. 38, No. 1, pp. 118–146.

25 Daase, Christopher (2013): Coercion and the informalization of arms control. In: Oliver Meier/Christopher Daase (eds.): Arms Control in the 21st Century. Between Coercion and Cooperation. Abingdon/Oxon: Routledge (Routledge Global Security Studies), pp. 67-78, here p. 71.

26 The pursuit for equal standing and status is relevant to South Asia esp. between India and Pakistan.

and prestige, but by the same token, they can also formalize inequality and an inferior status[27] making it unacceptable for some states to join or negotiate them.[28]

A *third* problem of the formal approach are time-consuming and complex negotiations that may or may not result in treatise. Research and development, technological dynamics, and the rapid introduction of countermeasures render agreements obsolete, once they are ready for signature and ratification. Harald Müller accurately concluded that "arms control always runs the risk of constraining the armaments of yesterday."[29]

A *fourth* point is the potentially high number of veto-players. The history of arms control shows that states often do not speak with one voice and that delegations have to deal not only with their counterparts but also with domestic actors like the military, political parties, the foreign and security policy bureaucracy, allies, and (in democratic societies) with the electorate. All these actors have their own particular interests which makes it almost impossible to find a common denominator.[30] A recent and illustrating example is displayed by the negotiations that led to the Joint Comprehensive Plan of Action between Iran, the US, France, the UK, China, Russia, Germany, and the EU.

The final and *fifth* problem is the danger of delegitimizing the whole arms control process when arms control is limited exclusively on formal methods and approaches. The more arms control is being narrowed excessively on treatise and the more scholars treat formal negotiations as the only way to practical, desirable, and reasonable agreements, the easier it is to reject the whole idea of controlled and regulated cooperation with other states in the field of weapons. One example is the criticism of arms control during the George W. Bush administration.[31] After criticizing arms control as being a "relict of the Cold War" and unable to prevent terrorists from

27 The tendency of treatise to fix a certain status can be among the main obstacles for formal arms control. States could refuse to sign treatise or enter negotiations arguing that this would fix an inferior status. The Pakistani position in the FMCT Talks held in Geneva are an example of this problem. The Pakistani side argues that any cut-off treaty that excludes the existing stocks of fissile material would strengthen India and undermine Pakistan's deterrence vis a vis New Delhi.

28 On the other side, some state seem to have no objections against hierarchical treaties. States like Germany and Japan for example would not question their NPT membership on the basis of inequality or status.

29 Müller, Harald (1989): Technologie und Sicherheitspolitik. Der Einfluss von technischem Wandel auf Strategie und Rüstungskontrolle. In: Hacke/Knapp (eds.): Friedenssicherung und Rüstungskontrolle in Europa. Köln: Verlag Wissenschaft und Politik, pp. 173–209, here p. 194.

30 Putnam, Robert D. (1988): Diplomacy and domestic politics: the logics of two-level games. In: International Organization Vol. 42, No. 3, pp. 427–460; Evans/Jacobsen/Putnam (eds.) (1993): Double-Edged Diplomacy. International Bargaining and Domestic Politics. Berkeley, Berkeley University Press.

31 This skeptical attitude towards formal arms control was formulated by Guy Roberts: "Although arms control practice and process had an important – at times critical – role in keeping the US-Soviet confrontation cold, it is unlikely that future arms control proposals (if ever agreed to and implemented) would be as helpful or relevant in facing the new challenge of WMD proliferation. Typically, such agreements take years to negotiate, and the prohibitions and restrictions that they create are likely to be ignored or circumvented by those we fear most as proliferators or active supporters of WMD terrorism.", Roberts, Guy B. (2009): Beyond Arms Control: New Initiatives to Meet New Threats. In: Larsen/Wirtz (eds.): Arms Control and Coop-

acquiring nuclear weapons – a critique that was not always implausible – the Bush administration objected arms control treaties and focused more on informal, ad-hoc, and *non-integrative* approaches to deal with nuclear weapons.[32]

To sum up this chapter, one can say that treatise remain important *instruments*[33] of arms control – instruments with weaknesses that should not be neglected. The conditions for treaties are not always given and to argue that a formal and legally-binding agreement is the only way to reduce nuclear dangers and contribute to stability is, with the words of Colin Gray, to miss the opportunities of the whole concept. Allison Bayles, former director of SIPRI, captured the essence of this critique and skepticism regarding formal arms control when she claimed that

> the treaty method has become so much of a mantra in recent debates that it is hard to remain objective in discussing its strengths and weaknesses.[34]

2.2 The informal arms control school

In their seminal book *Strategy of Arms Control*, Thomas C. Schelling and Morton H. Halperin provided an understanding of arms control that included formal as well as informal elements.

> The degree of formality may range from a formal treaty with detailed specifications, at one end of the scale, through executive agreements, explicit but informal understandings, tacit understandings, to self-restraint that is consciously contingent on each other's behavior.[35]

erative Security. Boulder, Lynne Rienner Publishers, pp. 195–214, here p. 196. For the Bush-administration's view on multilateralism in general see Daalder, Ivo H.; Lindsay, James M. (2005): America Unbound. The Bush Revolution in Foreign Policy, John Wiley & Sons New Jersey.

32 It is necessary to point out that informal arms control is not to be confused with coercive or non-cooperative unilateralism. According to Oliver Meier, these approaches that can be labelled as "non-integrative arms control" have the following characteristics: "A select group of states ("coalition of the willing") defines rules and norms; Institutional structures for implementation support are only rudimentary, legally binding obligations are avoided; The scope is narrow, issue-specific and focused on non-proliferation. Reciprocal commitments and issue linkages are rejected as diverting from the core purpose; Coercive measures, rather than inducement, are used to achieve compliance.", Meier, Oliver (2008): Non-integrative arms control. Assessing the effectiveness of new approaches to preventing the spread of weapons of mass destructions. In: Peace and Security, Vol. 26, No. 2, pp. 53-60, here p. 54. Even though the unilateral, informal, and gradual approach shares some of these characteristics, like the missing legal commitment, two aspects differ fundamentally: first, unilateral and gradual arms control aims towards stability and cooperation, and second, military coercive instruments do not belong to the arms control strategy (but nonetheless sanctions and coercive actions can be part of nonproliferation efforts). For an inclusion of military instruments into arms control see Sloss, David (2003): Forcible Arms Control: Preemptive Attacks on Nuclear Facilities. In: Chicago Journal of International Law 4 (1), pp. 39–57.

33 There is the tendency to equal treatise with arms control and not as an instrument to achieve its goals.

34 Bailes, Alyson J.K. (2013): The changing role of arms control in historical perspective. In: Meier/Daase (eds.): Arms Control in the 21st Century. Between Coercion and Cooperation. Abingdon/Oxon: Routledge (Routledge Global Security Studies), pp. 15–38, here p. 18.

35 Schelling, Thomas C.; Halperin, Morton H. (1985): Strategy and Arms Control. Washington D.C.: Pergamon Press, p. 77.

Informal arms control can be divided into several sub-strategies with distinct characteristics. A *first* strategy is known from economics and game theory and is called *tit-for-tat*.[36] The strategy begins with a cooperative move and then mirrors the step the partner has taken. If the partner cooperates, the response is positive and cooperation keeps going on. If the partner chooses not to cooperate (defection), the initiator stops his cooperative move. In a tit-for-tat-like situation, the party that starts with a move keeps the other actor unclear about its expectations. The initiator does not articulate what he/she expects the other side to do.

A *second* informal arms control strategy is *conditional cooperation* or *conditional reciprocity*. Similar to tit-for-tat, it starts with a cooperative move and – like tit-for-tat – depends on the partner's reaction. The main difference is that in conditional cooperation, the other side knows what the initiator wishes and expects. Meeting his or her expectations is the condition for proceeding with cooperation.

> GRIT and tit-for-tat let the responder choose how to respond. *In conditional reciprocity, however, the initiator chooses, by specifying what it is that the rival should do to reciprocate*.[37]

A *third* alternative of informal approaches is *unilateralism* – understood as one-sided and complete or partial disarmament. Unilateralism differs from tit-for-tat and conditional cooperation/reciprocity in that it is completely independent of reactions and responses of others.

Finally there is *gradualism* or *GRIT* (**G**raduated and **R**eciprocated **I**nitiatives in **T**ension Reduction).[38] This strategy aims at transforming a relationship between antagonistic states into a stable relation where disarmament is possible. GRIT is designed as a step-by-step approach. The initiator begins with a relatively small step that does not undermine its security and invites the other to follow suit or take another de-escalating action. Typical for GRIT is that reciprocity at the beginning is not required.[39] As the process of action and reaction proceeds, the steps become more and more dependent on each other so that negotiation becomes possible. Etzioni described the strategy as follows:

> [I]t points towards a course of (1) unilateral, (2) reciprocal, and (3) symbolic actions between mutually mistrustful agents. This pattern of actions, my theorem suggests, *is the best road to travel towards possibility to normal negotiations*.[40]

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36 Downs et al. call this strategy "tacit bargaining". See Downs, George W./Rocke, David M./Siverson, Randolph M.: Arms Races and Cooperation, World Politics, Vol 38, No. 1, pp. 118-146, here p. 126.

37 Bunn, George; Holloway, David (1998): Arms Control without Treaties? Rethinking U.S.-Russian Strategic Negotiations in Light of the Duma-Senate Slowdown in Treaty Approval. Center for International Security and Arms Control. Stanford (CISAC Working Paper), no page.

38 An alternative term is "unilateral-reciprocal model"

39 See Welch Larson, Deborah (1997): Trust and Missed opportunities in International Relations, Political Psychology Vol. 18, No. 3, pp. 701-734, here p. 720.

40 Etzioni, Amitai (2008): The Kennedy-Experiment Revisited, Political Research Quarterly, Vol. 61, No. 1, pp. 20–24, here p. 20, italics added. In this regard, Etzioni differs fundamentally from Osgood. For Osgood,

The gradual approach accepts deterrence as a starting point for limited steps that are de-escalating but not negative for the initiator's security.[41]

Informal arms control as an alternative strategy for stability and potential arms reductions is not without problems. In general, states could prefer non-binding and informal strategies over legally-binding treatise. Doing so can be reasonable and sometimes the only way to establish cooperation among states. The reasons for choosing such an approach may range from keeping one's own freedom of action[42], circumventing time-consuming negotiations, or avoiding "turf wars".

> The principal advantage of such parallel unilateralism is that it is quick and relatively simple to implement. Prolonged and complicated negotiations, which can be especially difficult when relations between the negotiating parties are poor, can be bypassed. Since no formal obligations are involved, moreover, there would be little or no need for detailed definitions and provisions.[43]

This in itself is not all too problematic, but becomes a problem if the attitude towards formal arms control changes and a view where decision-makers and the policy elite thinks "it will go without treaties" gets more and more dominant. As a result, formal arms control could be seen as redundant[44] – a tendency that is reinforced by the above mentioned critique. A second flaw is the reversibility of informal, unilateral and reciprocal steps. In practice, one side could revoke its political commitment or change course in the next "round" without breaching international law.[45] This turn-around or "flip-flopping" reduces predictability and stability in international politics with negative consequences.

Besides this fundamental critique, each informal strategy has its specific problems. *Tit-for-tat*, for example, has a certain potential for rising tensions between distrustful actors. The strategy

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unilateral steps should – as I will mention later again – reduce the opponent's threat (perception). This means, according to Osgood, some reduction or reorganization of military capabilities are necessary. Etzioni, on the other hand, has argued: "Finally, and most centrally, steps down the road that my theorem maps out are symbolic? States should pursue actions with predominantly "psychological" weight rather than with significant military, economic, or any other "real" value.", Etzioni: The Kennedy-Experiment, p. 20.

41 "Nuclear retaliatory capacity can serve rational foreign policy (…) if it is viewed not only as a deterrent but also as a security base from which to take limited risks in the direction of reducing tensions", Osgood, Charles E. (1970): An Alternative to War and Surrender. Urbana: University of Illinois Press, p. 90.

42 See Fehl, Caroline (2014): Unequal power and the institutional design of global governance: the case of arms control, Review of International Studies, Vol. 40, No. 3, pp. 505-532, here p. 509.

43 Dunn/Valessi: Arms Control by other means, p. 132.

44 See Gottemoeller, Rose (2002): Arms Control in a New Era, The Washington Quarterly, Vol. 25, No. 2, pp. 45-58, here p. 46.

45 See: Dunn/Valessi: Arms Control by other means, p. 132. On the other side it is not correct to attribute some kind of reversibility only to non-binding agreements and informal steps as the withdrawal from the Anti-Ballistic Missile Treaty (ABM Treaty) under George W. Bush and the withdrawal of the Paris Agreement under Donald J. Trump show.

allows for misperception and faulty interpretations when it comes to the question of who refused cooperation first. Is a non-cooperative move an unprovoked defection or is it merely a retaliation for a former refusal?

> In real life, »ongoingness« of interaction muddies the waters considerably, for a non-cooperative move might be chosen by a party in retaliation for a former wrong while the other player might interpret the move as one of unprovoked defection.[46]

The difficulty of interpreting whether a move was an aggressive defection or a reasonable reaction (or none of it) is enforced by the vagueness of desired responses. If state A is unclear and silent about its expectations regarding state B's reaction, it should not come as a surprise if expectations are not met. And even if the other side replies, it cannot be sure whether or not the move is what the initiator preferred and wished for. Psychological studies have shown that we tend to perceive our own actions as cooperative, positive, and appropriate whereas the reaction of the other parties are seen as inappropriate, aggressive and below our expectation.[47]

The second strategy that relies on informal steps is *conditional cooperation/reciprocity*. This approach is explicit about its conditions for further cooperation. Each party knows what is necessary for keeping the process going. This helps to reduce the chance for conflict and misinterpretation. What might be an advantage in some is problematic in other circumstances. Being clear and explicit about the preferred response could be perceived as interference and restriction of freedom of action. In some regional settings where states see each other as enemies, telling someone to take a certain step (and blame him/her if he/she does not obey) could easily be disregarded as a strategy for fraud, exploitation, and propaganda. To avoid a process that is being blocked from the beginning, Daniel Druckman introduced the idea of *unconditional cooperation*, a strategy that does not require reciprocity. But Druckman was pessimistic about the success of his alternative approach. He argued that unilateral steps might not be the most realistic course of action in a situation where states see each other as threats and where trust is at low levels.[48]

Druckman's strategy has some similarities with *unilateral disarmament*.[49] This strategy is not dependent on the other side's reaction. Today, unilateralism has a distinct negative connotation

46 Kratochwil quoted in: Dosch, Jörn (2002): Die Herausforderung des Multilateralismus. Amerikanische Asien-Pazifik Politik nach dem Kalten Krieg. Baden-Baden: Nomos, p. 27 [footnote 61].

47 See Keohane, Robert O. (1986): Reciprocity in international relations, International Organization, Vol. 40, No. 1, pp. 1–27, here p. 10.; Welch Larson: Missed Opportunities, p. 717.

48 Druckman, Daniel (1993): The Psychology of Arms Control and Reciprocation. In: Ramberg (ed.): Arms Control without Negotiation. From the Cold War to the New World Order. Boulder/London: Lynne Rienner Publishers, pp. 21–41, here p. 38.

49 See Fromm, Erich (1962): Argumente zur einseitigen Abrüstung. In: Brennan (ed.): Strategie der Abrüstung. Achtundzwanzig Problemanalysen. Unter Mitarbeit von Uwe Nerlich. Deutsche erweiterte Ausgabe.

but in the early 1960s it labeled steps that aimed at overcoming the logic of deterrence. The security dilemma is basically a result of weapons and, as Erich Fromm puts it, unilateral disarmament reduces this dilemma.[50] Critics of unilateral arms reductions and complete disarmament warned that such steps would undermine the initiator's security rendering the disarming state helpless and without any defense. And even if this strategy was successful, it would be hard to test it as it may provokes domestic opposition and uproar among allies. Critics also argued that it would be counter-productive because the active party would lose some of its bargaining-chips.

Druckman highlighted a general problem. He argued that the danger (and fear) of being cheated upon is so high that every initiative is blocked from the beginning. In a relationship of mutual distrust, no party will take a step that induces cooperation. Either the potential steps are too small and do not lead to a reaction or they are too big and make the initiator vulnerable. The whole process of reciprocity and cooperation is for Druckman more a *result* of improving relations than a *cause* for improvement.

If these problems and challenges are taken as a starting point, one can conclude that the gradual approach is the most promising strategy for informal arms control. The *gradual arms control* approach is less ambivalent with regard to the security of the initiator, because every step taken in such a process has a relatively small risk. The ability to defend is not being undermined and the absence of a reaction is not going to lead to a strategic disadvantage. Even if the assumptions about the other side are incorrect and it has aggressive intentions, the danger of "strategic exploitation" is very low. Robert Jervis has describe the gradual arms control strategy in his own words: The strategy has „high payoffs if the assumptions about the adversary that underlie them are correct, yet [has] tolerable costs if these premises are wrong."[51] A second advantage of the gradual approach is that it is less controversial. Domestic opposition against gradual steps should be lower than against unilateral disarmament, because GRIT is not being perceived as a "sold out" of security. Unlike tit-for-tat and conditional cooperation, no explicit answer is expected and required, and the process is not being stopped if the other side refuses to react. This persistence makes it harder to depict the other state as an enemy that just waits for a chance to cheat.

Gütersloh: Bertelsmann, pp. 208–218. The term unilateral disarmament does not only mean complete disarmament of all weapons, but also partial reduction of certain weapons categories.

50 See ibid., p. 213.

51 Jervis, Robert (1976): Perception and Misperception in International Politics. Princeton: Princeton University Press, p. 111.

3. The gradual arms control

Gradual arms control can be defined as a strategy that consist of elements from gradualism and arms control. Oliver Thränert described gradual arms control as a strategy that aims at stability through deterrence (avoiding nuclear wars/nuclear weapons use) but without disarmament. The strategy accepts controlled arms build-ups and restructuring of the nuclear arsenal. Gradual arms control uses unilateral and reciprocal steps that do not undermine the imitator's security.[52] In general, this strategy's goal is to reduce potentially dangerous tensions, break conflict dynamics and arms races, and avoid conventional wars that might lead to nuclear weapons being used. The gradual arms control strategy is not a tool for perpetuating nuclear deterrence. Deterrence and the threat of retaliation can be useful instruments for peace and stability as the "stability through deterrence"-school argues. But deterrence as a security strategy has its unique flaws and it can undermine security. Nuclear deterrence can enforce certain conflict dynamics and can create incentives (and pressures) for preventive and preemptive moves.[53] Gradual arms control takes the existence of nuclear weapons as a basis for unilateral steps and initiatives without being uncritical about the failures of deterrence.

To become a practical strategy, gradual arms control must highlighted some areas where it can be applied and identify criteria that the steps taken must perform.[54] Specific areas or fields are necessary for framing the strategy's concrete measures. This is important because gradualism itself is not a narrow security strategy but can also be used in cultural or economic affairs. I limit gradual arms control to the military (nuclear and conventional) field.

Identifying and developing criteria and conditions is essential because they allow for an analytical investigation of the options and limits of gradual arms control. Without criteria, we might think that unilateral and reciprocal steps are always and everywhere possible.

I have identified four areas where gradual arms control can be applied. These areas are *weapons technology*, *military organization*, *political* and *strategic orientation*. The advantage is that these areas can be broken down and allow for specific steps (table 1).[55]

52 Thränert, Oliver (1986): Rüstungssteuerung und Gradualismus. Möglichkeiten und Grenzen einer alternativen Sicherheitspolitik. München: Tuduv Verlagsgesellschaft, p. 262.

53 There is vast literature on this subject. One could start with Freedman, Lawrence (2003): The Evolution of Nuclear Strategy, Palgrave MacMillan.

54 One interesting aspect of the writings on informal arms control is that references to Osgood's and Etzioni's works is almost completely missing. One recent reference to gradualism and GRIT was found in a text by German authors.

55 A review of the arms control literature shows that these steps and measures are common sense. By this I mean that they are accepted by most scholars as part of arms control. Including a broad range of areas (from technology to politics), I clearly treat arms control not only as a technology-focused strategy, but also as a

Table 1: Arms Control Areas[56]

Type of Area	Specific steps and measures
Weapons Systems and Technology	- second strike capabilities - secure C^3 systems - avoidance of accidents and technical problems - safe and secure communication with the „opponent"
Organization and Structure of Nuclear Weapons	- centralization of command authority - crises management
Political and security policy factors	- no pursuit of dominance or hegemony - acceptance of the opponent's core security interests - confidence building and reduction of suspicion
Military Strategy/Nuclear Strategy	- defensive strategies - freeze/reduction of armed forces (in certain regions and areas)/demobilization - enhancement of non-nuclear reactions - abandonment of risky military maneuvers - abandonment of offensive military strategies

The two leading proponents of gradualism have identified the following criteria and conditions for unilateral and gradual steps.[57]

- Unilateral steps should reduce the threat to (or threat perception of) the other state;
- Unilateral steps should not increase the threat to (or threat perception of) the initiating state;
- Unilateral steps should be recognizable by the other state, and a response to a unilateral step should also be recognizable (Osgood has argued that unilateral steps should have some security

political strategy. The label "common sense" does not mean that these specific measures and steps are beyond criticism.

56 See Forndran, Erhard (1970): Rüstungskontrolle. Friedenssicherung zwischen Abschreckung und Abrüstung. Düsseldorf: Bertelsmann, p. 122.

57 See Etzioni, Amitai (1965): Der harte Weg zum Frieden. Eine neue Strategie. Göttingen: Vandenhoeck & Ruprecht; Etzioni, Amitai (1965): Siegen ohne Krieg. Düsseldorf/Wien: Econ Verlag; Etzioni, Amitai (1968): Das Kennedy-Experiment. In: Ekkehart Krippendorff (ed.): Friedensforschung. Köln/Berlin: Kiepenheuer&Witsch, pp. 393–411; Osgood, Charles E. (1968): Wechselseitige Initiativee. In: Ekkehart Krippendorff (Hg.): Friedensforschung. Köln/Berlin: Kiepenheuer&Witsch, S. 357–391; Osgood, Charles E. (1970): An Alternative to War and Surrender. Urbana: University of Illinois Press.

related elements that could be easily verified. Etzioni has argued that even a change in rhetoric and symbolic gestures could be a starting point);

- Unilateral steps should be announced in advance, and the expectations of what an acceptable response is, should be communicated to the other state;
- But a response should not be made a condition for proceeding, and the gradual process should continue regardless of the other state's response;
- Responses to unilateral steps have not to be equal in quantitative terms;
- Unilateral steps should continue as long as the security and defense of the initiator is not decreased;
- Unilateral steps should be in accordance with the general foreign and security policy of the initiator;
- Unilateral steps should be consistent;
- Unilateral steps should not be an instrument for deception and cheating.

Other conditions that help initiating a gradual arms control approach are:

- Unilateral steps and initiatives should be as clear and specific as possible leaving no or little room for misinterpretation;
- Absence of domestic opposition groups regarding arms control;
- Strength of arms control proponents in the government, foreign policy elite and in society as a whole;
- No negative influence on the political status, prestige and economic and military capabilities of all parties involved;[58]
- No reduction of security.[59]

Deborah Welch Larson has argued that the impact of certain unilateral steps and initiatives is higher when certain costs are involved. The level of costs, whether they are domestic, security, economic, or status and image costs, indicates "the strength of an actor's motivation (…) As a result, we make stronger, more confident inferences about an actor's motivation the more risky and costly her behavior."[60] This might have some effect on reciprocation. If the other side thinks and believes that our initiatives and steps bear some costs on us, he or she might infer that we are honest and credible. As a consequence, he or she is more likely to respond positively.[61]

58 Deborah Welch Larson has argued that "conciliatory actions are more costly, and therefore more credible, if they are noncontingent, irrevocable, and increase the initiator's vulnerability [italics in original]. Especially the last point is only partly correct and in accordance with the gradual arms control approach. If the vulnerability goes too far, the initiating side might end up less secure. Certain costs strengthen the active part's credibility but if taken too far they might undermine the whole process and give support to critics of conciliatory gestures.

59 See Groten: Friedensforschung, S. 168f.

60 Welch Larson: Missed Opportunities, p. 721.

61 But, as Osgood and Etzioni have argued, costs are not to be confused with risks. Gradual steps should only involve minor risks for the initiator.

4. Nuclear Weapons, Unilateral Steps, and Gradualism

This chapter puts the gradual arms control approach to a two-fold test.[62] The first part looks at the historical record and some current developments. Are there examples that plausibly show how gradual steps contributed to nuclear stability, tensions reductions, and/or arms control agreements? The second part takes gradual arms control to current regional conflict dynamics, esp. India and Pakistan. Where are the options and limits of this strategy?

In order to test this approach and analyze whether or not it can contribute to stability, I will use the areas shown in table 1 and combine them with the outlined criteria and conditions of unilateral and gradual steps.

4.1. The historical record[63]

One of the most often mentioned examples of gradualism and nuclear weapons in international politics is the so called "Kennedy experiment". In 1963, U.S. president John F. Kennedy announced in his "strategy of peace" speech a change in relations towards the Soviet Union. Kennedy asked the American people to reexamine their attitude towards peace and the cold war in general and the Soviet Union in particular.[64]

> Some say that it is useless to speak of world peace or world law or world disarmament--and that it will be useless until the leaders of the Soviet Union adopt a more enlightened attitude. I hope they do. I believe we can help them do it. But I also believe that we must reexamine our own attitude – as individuals and as a Nation – for our attitude is as essential as theirs. And […] every thoughtful citizen who despairs of war and wishes to bring peace, should begin by looking inward – by examining his own attitude toward the possibilities of peace, toward the Soviet Union, toward the course of the cold war and toward freedom and peace here at home.[65]

One central element Kennedy suggested was the stop of atmospheric nuclear testing through a treaty prohibiting nuclear explosions. Kennedy was aware of the problems standing in the way of treaty negotiations, so he proposed an informal process.[66] In this context, he declared that

> the United States does not propose to conduct nuclear tests in the atmosphere so long as other states do not do so. We will not – We will not be the first to resume. Such a declaration is no substitute for a formal binding treaty, but I hope it will help us achieve one. Nor would such a treaty be a substitute for disarmament, but I hope it will help us achieve it.[67]

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62 It is beyond the scope of this paper to provide an in-depth case study. For a detailed study of gradual arms control see: Heinrich: Rüstung und Rüstungskontrolle in Asien.

63 This chapter is for illustrative purposes and not comparable with an in-depth case study.

64 For a transcript of the speech see: https://www.jfklibrary.org/Asset-Viewer/BWC7I4C9QUmLG9J6I8oy8w.aspx (accessed 28.08.2017). Hereafter called "Strategy of Peace speech".

65 Ibid.

66 A test ban was not Kennedy's idea. It was discussed earlier by President Eisenhower, Chairman Khrushchev and Prime Minister Macmillan. See Johnson, Rebecca (2009): Unfinished Business. The Negotiation of the CTBT and the End of Nuclear Testing, United Nations Institute for Disarmament Research, Geneva, p. 13.

67 Strategy of Peace speech.

Right after the speech, the two sides announced diplomatic initiatives that were conciliatory. In the strategic-nuclear field, and as a response to Kennedy's speech, chairman of the communist party and Prime Minister, Nikita Khrushchev, declared to stop the production of strategic bombers.

Kennedy, whether intentionally or not,[68] outlined some of the central thoughts of the gradual strategy for tensions reduction. One side offers something in the hope the other might follow so that negotiations can begin. Etzioni took the developments in 1963 as a proof for his (and other's) strategy of unilateral and gradual steps.

But there are also some points that do not fit into the gradual strategy. First, Kennedy makes the stop of nuclear testing dependent on the Soviet Union's reaction ("so long as other states do not do so"). This contradicts the criteria of unconditional steps (at least for the first series of steps). A "true" confirmation of the gradual arms control strategy would have been a continuation of Kennedy's moratorium despite Soviet's tests. Second, Etzioni has concluded that "the concessions made by both sides were for the most part highly symbolic."[69] The United States were ready to stop testing anyway and the Soviet Union was confident enough in its deterrent that "phasing out" strategic bombers would not have made a huge impact on strategic calculations. Etzioni acknowledged this when he wrote:

> None of the moves was costly in military, economic, or any other "real" terms but were, rather, symbolic or "psychological." For example, the U.S. halting of atmospheric nuclear testing came after the United States had already conducted twice as much testing as the USSR and had amassed enough data to take at least a year of analysis to digest. At the time of Khrushchev's announcement about halting production of the strategic bomber, the USSR was likely planning on phasing out those bombers anyway.[70]

Here is a fundamental difference in the conceptions of Etzioni and Osgood. For Etzioni, even purely symbolic gestures, e.g. the destruction of old und almost useless military hardware or a change in rhetoric are part of a gradual strategy. Osgood on the other hand has argued that unilateral steps should have some connection to the other side's threat perception. In other words: for Osgood even initiatives and actions at the beginning of a gradual process had to be security-relevant.[71] That would have been the case if some of the unilateral initiatives and responses had more links to the measures listed in table 1.

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68 Etzioni wrote that he did send memos to Kennedy's staff.

69 Etzioni: The-Kennedy-Experiment revisited, p. 22.

70 Ibid., p. 22.

71 "security-relevant" in this case means simply a connection to military and defense policy, nuclear strategy, reduction of armaments, and change in doctrine etc. But it is hard to measure when a purely symbolic gestures ends and a security-relevant step begins. Here we need more in-depth analyses.

Other criteria were met. The steps that followed Kennedy's speech were part of a broader foreign policy initiative aiming at reducing nuclear dangers after the Cuban missile crisis. The steps were "recognizable" and they were announced in advance.

A *second* example of "unilateral reciprocal commitments" is a series of steps conducted by the United States and the Soviet Union/Russia in the early 1990s.[72] The United States announced that they will "limit and reduce the U.S. tactical nuclear weapons arsenal."[73] In particular President George H. W. Bush declared in his *Presidential Nuclear Initiative* (PNI) that the US will withdraw all ground-launched short range weapons that are located overseas and destroy them.[74] The second initiative concerned the deployment of "tactical nuclear weapons on surface ships, attack submarines, and land-based naval aircraft during normal circumstances."[75] Other steps included the de-alerting of strategic bombers and ICBMs "that were scheduled for deactivation under START."[76] One element is particularly interesting. Bush announced the elimination of all MIRVed ICBMs. The process of "de-MIRVing" was finished in 2014[77] *despite* the developments in Russia's strategic arsenal that still relies on MIRV warheads.

The Soviet Union/Russia replied positively and announced some own initiatives. These initiatives included the elimination of "artillery munitions, nuclear warheads for tactical missiles, and nuclear mines."[78] A second element was the removal of all tactical nuclear weapons from surface ships and multipurpose submarines.[79] Finally, the nuclear warheads were taken from the air defense systems. In a second round, Gorbachev's successor, Boris Yeltsin, proposed additional steps, i.e. the unilateral production stop "of existing long-range air-launched and sea-launched nuclear cruise missiles."[80]

Regarding the PNIs, experts have voiced criticism but also potential benefits. Like in the "Kennedy-Experiment" the announced steps were symbolic gestures, because the "PNIs only publicized what would have been done anyway."[81] On the other hand these informal approaches clearly had some security implications. Tactical nuclear weapons were a central feature during the Cold War and were supposed to play an important role in any war scenario in Europe and/or

72 See http://www.nti.org/analysis/articles/presidential-nuclear-initiatives/ (accessed 10.08.2017). For a critical assessment of pros and cons see ibid.
73 https://www.armscontrol.org/factsheets/pniglance (accessed 10.08.2017).
74 Ibid.
75 Ibid.
76 http://www.nti.org/analysis/articles/presidential-nuclear-initiatives/
77 http://allthingsnuclear.org/emacdonald/the-end-of-mirvs-for-u-s-icbms; http://www.greatfallstribune.com/story/news/local/2014/06/18/last-malmstrom-icbm-reconfigured-treaty/10773351/
78 https://www.armscontrol.org/factsheets/pniglance (accessed 10.08.2017).
79 Ibid.
80 http://www.nti.org/analysis/articles/presidential-nuclear-initiatives/
81 Ibid.

Asia. Their withdrawal to more centralized locations did reduce some challenges for command, control, delegation, and theft – problems that were highly relevant during the Cold War and afterwards. Additionally, tactical nuclear weapons had a much higher security impact for America's European and Asian allies. Removing these systems was a step to ease some regional and local concerns and build trust.

Another point that can be labeled as a "gradual arms control" initiative is the de-MIRVing of Minuteman missiles. MIRVs had (and still have) a relevance for crisis stability.[82] They can increase incentives on both sides to strike first and a removal of MIRVed warheads can contribute to stability. From a "gradual arms control" perspective it is necessary to highlight that the US has downloaded its MIRVed missiles *despite* the opposite trend in the Russian arsenal. Such a continuation is also suggested by the gradual approach.

A *third* example that could plausibly be interpreted from a gradual arms control perspective is the Iranian nuclear crisis. For over a decade, the United States, its Western allies, Russia, and China were trying to keep Iran away from getting nuclear weapons. After sanctions and military threats showed almost no effect,[83] it was under the Obama-Administration that a diplomatic solution has been achieved. Some developments in this conflict, which is not only about nuclear proliferation but also about regional hegemonic aspirations and peace in the Middle East, can reasonably be identified as elements of the gradual arms control strategy.

During George W. Bush's term in office, one can easily speak a "war rhetoric" that was matched by Iran's president Mahmoud Ahmadinejad. President Bush called the Iranian regime a "sponsor of terror" that seeks weapons of mass destruction and refuses its people fundamental rights. The connection of nuclear weapons, terrorism, and the undemocratic character made Iran, according to Bush, part of the "axis of evil".

> *Iran* aggressively pursues these *weapon*s [of mass destruction, J.H.] and exports *terror*, while an *unelected* few repress the Iranian people's hope for freedom.[84]

As part of this axis, Iran was not to be trusted and the only way to solve the nuclear issue, according to official documents published under the Bush administration, was a regime change.

> The nuclear issue and our other concerns can ultimately be resolved only if the Iranian regime makes the

82 Macdonald, Eryn (2014): The End of MIRVs for U.S. ICBMs, http://allthingsnuclear.org/emacdonald/the-end-of-mirvs-for-u-s-icbms (accessed 28.08.2017).

83 Proponents of sanctions and a tough stance on Iran argue the other way and claim that sanctions were forcing Tehran to the negotiation table.

84 https://web.archive.org/web/20090502151928/http://georgewbush-whitehouse.archives.gov/news/releases/2002/01/20020129-11.html (accessed 28.08.2017).

> strategic decision to change these policies, open up its political system, and afford freedom to its people.[85]

This choice of words must have led to serious concerns in the Iranian elite, esp. with the wars in Iraq and Afghanistan in mind.[86] Given the low likelihood of a political reform in Iran in the near future, various documents highlighted preventive actions to stop Iran from acquiring a nuclear capability. Not non-proliferation by diplomacy and political means ("Iran is not to be trusted"), but counter-proliferation – including military means – was one of the preferred instruments for preventing other states from getting nuclear weapons. In a 2006 document, the *Quadrennial Defense Review Report*, published by the Department of Defense, the Bush-Administration stated that

> National efforts to counter the threat posed by weapons of mass destruction must incorporate both preventive and responsive dimensions.[87]

The *National Military Strategy to Combat Weapons of Mass Destruction* (2006) reads

> The military mission is to dissuade, deter, and defeat those who seek to harm the United States, its allies, and partners through WMD use or threat of use. This mission is in direct support of the three pillars (*nonproliferation*, *counterproliferation*, and consequence management) of the national strategy for combating WMD.[88]

The Iranian side matched the "war rhetoric" with its own allegations against the US. Keywords in this discourse were "imperialism" and "arrogant power". More important from an arms control perspective was (and still is) that the Iranian leadership and large parts of the society saw nuclear technology as a historic national achievement, and compromise as submission.

> As regards the nuclear issue, I have said on many occasions and I repeat now *that the nuclear technology the Iranian nation gained is a great historic achievement*. Moreover, the Iranian nation does not owe a single favor to anybody for this technology. Nuclear technology has been indigenized. The Iranian nation has achieved this accomplishment due to the prudence of its officials. *It belongs to the Iranian nation and no power can deprive the nation of this advantage and this great right*.[89]

These two positions made any real progress hard and the two sides were trapped in a political

85 The White House (2006): National Security Strategy of the United States of America, Washington D.C., p. 20.
86 Iran is listed under the headline "ending tyranny" in the 2006 National Security Strategy. Although there are not specific steps mentioned, the probability that the Iranian regime saw this as a clear threat is high.
87 U.S. Department of Defense (2006): Quadrennial Defense Review Report, Washington D.C., p. 34.
88 Chairman of the Joint Chief of Staff (2002): National Military Strategy to Combat Weapons of Mass Destructions, Washington D.C., p. 7.
89 Ayatollah Ali Khamenei (2008): Public Address on the Occasion of Imam Ali's (a.s.) Birth Anniversary, http://english.khamenei.ir/news/842/Public-Address-on-the-Occasion-of-Imam-Ali-s-a-s-Birth-Anniversary# (accessed 20.06.2017).

deadlock.[90] Bush's successor, President Barack Obama, followed a different path. Already during his election campaign in 2007, he criticized Bush for not talking to the Iranians.

> The lesson of the Bush years is that not talking does not work. Go down the list of countries we've ignored and see how successful that strategy has been. *We haven't talked to Iran, and they continue to build their nuclear program*. We haven't talked to Syria, and they continue support for terror. We tried not talking to North Korea, and they now have enough material for 6 to 8 more nuclear weapons.[91]

After the election, President Obama called Iran a "Great Civilization" and offered Iran its "rightful place" in the world community. Obama did not only change rhetoric but tried also to establish direct connections to the Iranian leadership.

> I will use all elements of American power to pressure the Iranian regime, starting with aggressive, principled and *direct* diplomacy – diplomacy backed with strong sanctions *and without preconditions*.[92]

From a gradual arms control perspective, this was very important because Obama first acknowledged the Iranian regime as a dialogue partner (status) and, second, his offers were not cost neutral, because domestic actors in the US were opposed to any talks. One of the most relevant aspects of Obama's policy towards Iran was the refusal of a regime change. The President stated publicly that "We are not seeking regime change."[93] This statement – critics might argue – was merely "cheap talk" and bound the US to nothing. But, according to Etzioni, even symbolic steps can influence the security perception of other states positively and make it harder to create images of enmity. More fundamental and substantial steps and initiatives that the US could have undertaken to make Iran feel more secure are hard to envision, because the US has overwhelming military power that even minor adjustments in its defense policy would have failed to have an impact on Iran.

Obamas initiatives were answered by Hassan Rouhani, who succeeded Ahmadinejad as President of Iran. In a speech, given at the UN General Assembly, Rouhani declared that

> Iran seeks constructive engagement with other countries based on mutual respect and common interest, and within the same framework *does not seek to increase tensions* with the United States. I listened carefully to the statement made by President Barack Obama today at the General Assembly. Commensurate

90 President Bush was very explicit about the conditions for talks: "Our message to the leaders of Iran is also clear: Verifiably suspend your nuclear enrichment, so negotiations can begin." Bush urges Iran to stop enriching uranium, Reuters. https://www.reuters.com/article/idUSWAT008780 (accessed 28.08.2017).

91 http://www.cfr.org/elections/obamas-speech-woodrow-wilson-center/p13974

92 Campaign Policy Speech on Iraq at the Wilson Center. Delivered 15 July 2008, Ronald Reagan Building, Washington, D.C. http://www.americanrhetoric.com/speeches/barackobama/barackobamairaqwar-reaganbuilding.htm. Italics added.

93 http://www.nytimes.com/2013/09/25/us/politics/text-of-obamas-speech-at-the-un.html (accessed 17.07.2017).

> with the political will of the leadership in the United States and hoping that they will refrain from following a short-sighted interest of warmongering pressure groups, we can arrive at a framework to manage our differences.[94]

He further stressed that "[Iran] is prepared to engage immediately in time-bound and result-oriented talks to build mutual confidence and removal of mutual uncertainties with full transparency."[95] Due to the fact that the Iranian president alone cannot act as he wishes, real progress was made possible only after religious leader Ayatollah Ali Khamenei accepted some kind of constraints on the ability to enrich uranium. There was – one can only assume – a lot of movement on both sides. It is beyond the scope of this paper (and maybe impossible at all) to examine all internal processes in the Iranian leadership, but a few points need to be mentioned. First, most steps that were taken are symbolic gestures. This confirms the "Etzioni approach" of gradualism. Osgood's GRIT strategy would have required some steps and initiatives that were closely connected to Tehran's threat perception. But Obama's public announcement that the US do not want regime change through military means must have had some (positive) impact which is, unfortunately, hard to measure.[96] The Iranian side did its part for a solution as well. Rouhani took some risks with his approach towards the US. And even the religious leader stepped back from some of his "red lines".[97] It was the Iranian regime that accepted cuts and constraints in its nuclear program. Interesting from a gradual arms control perspective is that the steps were designed in a way that made the JCPOA acceptable to all parties.

4.2 Gradual Arms Control in the regional context: the case of India and Pakistan[98]

The most challenging region for treaty-based arms control is South Asia and the obstacles even for modest agreements are high. The region's two nuclear powers, India and Pakistan, are modernizing and expanding their arsenals, improving their missiles and introducing new systems. But most importantly, New Delhi and Islamabad are trapped in an enduring conflict that escalated in the past and one cannot dismiss the possibility that a crisis between India and Pakistan escalates to a full scale war again. Both sides engage in risky behavior and have adopted doctrines for conventional and nuclear war fighting.

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94 Full text of Hasan Rouhani's speech at the UN, http://www.timesofisrael.com/full-text-of-hasan-rouhanis-speech-at-the-un/ (accessed 28.08.2017)

95 Ibid.

96 This is one of the central methodological problems for GRIT and gradual arms control. How can we measure the impact of initiatives and steps upon the other side? One proxy would be the connectedness of action and reaction. If the analyst can plausibly show a relationship between steps and moves, one can assume that there was an effect.

97 See: Müller, Harald (2015): Khameneis Rote Linien: Eine Bewertung des Iran Abkommens, HSFK-Report 2/2015, Frankfurt a. M., https://www.hsfk.de/fileadmin/HSFK/hsfk_downloads/report0215.pdf (accessed 29.08.2017).

98 For a detailed analyses of the options and limits of gradual arms control in between India and Pakistan see: Heinrich: Arms and Arms Control in Asia.

Negotiated arms control treaties could help to reduce tensions resulting from arms build-ups and military doctrines, but unfortunately, formal arms control is almost missing in the region. There is no South Asian "CFE"-Treaty, no South Asian ABM Treaty, no South Asian "Open Skies" treaty, neither India nor Pakistan have joined the CTBT, and FMCT talks are being blocked by Pakistan. Feroz Hassan Khan concluded that "arms control treaties are most unlikely on the Subcontinent."[99] And Stimson Center's Michael Krepon argued similarly when he wrote that

> [A]rms control and reduction treaties are most unlikely in a triangular geometry, or in any of the triangle's two sides. India, Pakistan and China might therefore be spared the bargaining chips and safeguards that accompanied the superpower arms race.[100]

Scholars in general assume that the conditions for arms control are missing in the region. Institutionalization and legally binding treaties as the United States, the Soviet Union/Russia and Europe experienced during and after the Cold War, are seen in Asia (esp. South Asia) as part of the problem and not as part of the solution. Treaties and binding agreements (esp. reduction treaties)[101] are perceived as forced upon the region (as a Northern construct) and unrealistic given the region's unequal balance of power. Therefore it is necessary to evaluate the options and limits of informal gradual arms control as an alternative path to stability. In order to do this, I will use the steps listed in table 1 and the conditions for gradual and unilateral initiatives.

Initiative 1: Strengthen the nuclear test moratorium

A field where the gradual arms control strategy has some options is nuclear testing. Nuclear tests are an important step in the process of developing new and reliable war heads. States want to have workable and reliable weapons and a nuclear underground test is a strategic instrument to show everyone that you have mastered nuclear technology. India has already voiced interested in developing MIRV technology to equal China in terms of quality. Additional tests are a prerequisite for multiple warheads. Resumption of nuclear testing by India will prompt Pakistan to take a tit-for-tat move.

Due to opposition in the US, it is highly unlikely that the CTBT will enter into force in the foreseeable future and even with a moral obligation not to test (test taboo), without the CTBT future nuclear explosions cannot be ruled out. One element of gradual arms control strategy is

99 Khan, Feroz Hassan (2013): Strategic Restraint Regime 2.0. In: Michael Krepon/Julia Thompson (eds.): Deterrence Stability and Escalation Control in South Asia. Washington D.C., pp. 161–174., here p. 171.

100 Krepon, Michael; Thompson, Julia (2013): Introduction. In: Krepon/Thompson. (eds.): Deterrence Stability and Escalation Control in South Asia. Washington D.C., pp. 9–19, here p. 16.

101 Arms control is sometimes confused with disarmament. The author argues for an analytically sound distinction between arms control, disarmament, and non-proliferation.

to strengthen the nuclear test moratorium. A first step would be the destruction of the necessary test infrastructure by India and Pakistan. Such a step would not violate the conditions for unilateral initiatives. *First*, the destruction itself could be done in a separated way with small steps at the beginning and – depending on the other side's reaction – bigger steps at the end. Possible actions would be the destruction of roads or other things necessary for logistics. A more substantial step would be the sealing and destruction of the test shafts. *Second*, there would be no negative impact on security because the infrastructure would not be destroyed in a single step so that each side has enough time to evaluate the impact on security and defense. *Third*, status and prestige would not be a problem due to the fact that the gradual strategy is not binding for anyone. Additionally, both India and Pakistan claim to have conducted the same number of tests. No side would feel inferior.

However, there are not only options for potential unilateral and gradual steps but also some limits. One main condition for the gradual arms control strategy is the absence of domestic opposition. In India as well as in Pakistan are important and powerful veto players that could undermine any arms control process – even informal ones. In India it is the nuclear establishment esp. the *Defense Research and Development Organization* (DRDO) and opposes any constraints. The DRDO has claimed to be in the development phase for multiple warheads and it is unlikely that nuclear scientists would accept a strengthened test moratorium. In Pakistan it is the military that has no incentive to make the moratorium permanent.

Another disadvantageous aspect is the mounting pressure if Pakistan would start with unilateral steps to strengthen the moratorium. Imagine a situation where Pakistan is willing to make nuclear tests more unlikely (Pakistan said it will not be the first to resume testing). The pressure on India to follow would become stronger maybe erupting in an additional round of nuclear testing in order to satisfy the strategic community. Pakistan would have no choice but to follow suit. From a gradual arms control perspective, it would be better if India started with initiatives towards stabilizing the moratorium.

Initiative 2: Ending fissile material production

Another potential field for informal arms control is fissile material production. Enriched uranium and plutonium 239 are central elements for nuclear weapons. A production stop would make it harder to expand nuclear arsenals and could contribute to slow down the regional arm race. But the CD – the multilateral body where the FMCT negotiations would take place – is trapped in a blockade[102] and the main reason is that Pakistan has a fundamentally different view

102 The CD works consensus-based. This means that every state has a veto to block further progress.

on the scope of a potential FMCT. "It has to be accepted that, yes, we're going to negotiate *reductions of stocks and a ban on future production*. That's our position."[103]

Other states like China and India would accept a treaty banning the *future* production of fissile material, but Pakistan wants *existing* stocks to be reduced. Two factors explain Pakistan's position. First, the military and political decision-makers in Pakistan are concerned that India has (or can produce) potentially more fissile material than Pakistan, putting India in a strategic advantage it can exploit. The second factor is status and prestige. A formal treaty that would not reduce asymmetries in stockpiles is seen in Pakistan as cementing an inferior position. This explanation is supported by Zamir Akram, Pakistan's Ambassador to the CD, who told *Arms Control Today* "So we are ready to be a part of this [FMCT, J.H.] *process if we are given equivalence, if we are treated on par with India*."[104] Pakistan makes it clear that its position regarding the FMCT would change if it was given a similar status and similar benefits that India got from the Nuclear Suppliers Group.

Status, prestige, and formal equivalence are factors that constrain informal approaches like the gradual arms control. First, similar to the problem of nuclear testing, it is reasonable to assume strong opposition against an informal production stop. Pakistan did so unilaterally in the 90s but India didn't react. Neither the Pakistani military nor politicians would initiate a production moratorium again. And even if India ends production first, it cannot be guaranteed that Pakistan would follow. Second, Pakistan wants an equal status with India. A unilateral moratorium (that could be converted into a bilateral stop) would undermine this goal, because Pakistan would see this as reducing its security and status – two of the main criteria for gradual steps. It seems that anything less than a treaty reducing fissile material asymmetries is unacceptable for Pakistan.

Initiative 3: Changing doctrines

A "last but not least" area where unilateral and gradual steps have some potential benefits is the nexus between nuclear weapons and conventional strategies and doctrines. Pakistan's nuclear weapons policy – esp. the "strategy" of first use (or better: "not ruling out first use") – is to some extend dependent on India's conventional military strategy and strength. The Pakistani security policy elite perceives India as a threat with an advance in conventional weaponry. Therefore, its nuclear weapons are not only deemed necessary for nuclear deterrence but also for conventional deterrence. Former Prime Minister Nawaz Sharif was very explicit about this

103 Arms Control Association (2011): The South Asian Nuclear Balance: An Interview With Pakistani Ambassador to the CD Zamir Akram. In: Arms Control Today (online), Vol. 41, No. 12.

104 Ibid.

when he stated that "These weapons are to deter aggression, whether nuclear or conventional."[105] Even though the Pakistani Army is able to defend the country, it is the potentially increasing imbalance in favor of India that raises concerns in Islamabad and Rawalpindi.[106] This concern, if transformed into fear, can lower the threshold for nuclear weapons use. One development that is problematic in this regard is the announcement of a strategy called Cold Start. This strategy calls for rapid mobilization of Indian troops and limited strikes into Pakistani territory.[107]

One step in a gradual arms control process to ameliorate this trend is the reduction or withdrawal of conventional capabilities or a reformulation of conventional strategies as mentioned in table 1. India could explicitly – without any negative impact on its security – give up any ambitions for conventional strikes inside Pakistani territory as envisioned in its (not implemented) cold start doctrine. Pakistan has made clear that any conventional war would raise the probability of nuclear weapons use. The problem is that Pakistan has acquired some hardware for this destabilizing and dangerous posture (like the 60 km range HATF IX) and took some measures like pre-delegation. A positive initiative from India could induce Pakistan to re-think its nuclear first use strategy and accepting a nuclear deterrence-only strategy. Such a step would not render India more insecure or vulnerable, because the threats India is facing are not reduced by strategies of rapid force mobilization and rapid strike options. During the Cold War, some experts argued for a strategy of "non-offensive defense" – a strategy that relied on weapons systems and doctrines that were not threatening and defensive in nature. The goal was to create time spaces for de-escalation. Such a move does not require any formal agreements.

As limiting factors for restructuring the defense policy (or at least announcing a change) is domestic politics. Pressures, esp. in India might be too high to allow for changes and the public (and far right parts of the political system in India) is likely to oppose any positive initiative with regard to Pakistan.

5. Conclusion

This paper has highlighted some of the main challenges of the treaty-based arms control approach. Treaties and legally binding agreements that could potentially reduce nuclear weapons

105 Acronym Institute (1998): Text of Prime Minister Muhammed Nawaz Sharif at a Press Conference on Pakistan Nuclear Tests, Islamabad 28 May 1998.

106 See: Clary, Christopher (2013): Deterrence Stability and the conventional Balance of Forces in South Asia. In: Krepon/Thompson (eds.): Deterrence Stability and Escalation Control in South Asia. Washington D.C., pp. 135–160, here p. 152.

107 Even Cold Start is not implemented, it is a key element in Pakistani nuclear policy – be it as an excuse or a real threat. A clearly voiced reformulation of this strategy would make it harder for Pakistan to make a connection between Cold Start and its first use policy.

and stabilize relations between nuclear armed states are facing problems that make their establishment seem illusory. The paper provided an alternative route to stability and potential arms reductions via gradual and unilateral steps. The idea behind this gradual arms control strategy is that unilateral moves can lead to stability even without the other side's reaction as long as the core security interests and the ability to defend is not undermined. In order to analyze the options and limits of this strategy, areas and conditions were identified. These two elements provided the analytical framework for this paper.

The historical record has shown that some elements of the gradual arms control strategy had been applied but it would be premature to assume that the strategy was fully confirmed. Elements of Etzioni's approach, esp. symbolic gestures, were more often part of the conciliatory moves that have been taken than substantial steps demanded by Osgood.

Taking gradual arms control to Asia, a region where nuclear weapons, a history of conflict and enmity, and terrorism meet, illustrates the necessity of stabilizing measures. Alternative approaches have some option in the region that lacks institutional settings to reduce tensions and slow down arms races. Particularly promising is the strengthening of the nuclear test moratorium. Unilateral and gradual steps seem practical and could contribute to arms race stability. Developing new warheads would become harder. The gradual arms control strategy is constraint by domestic politics and the influence of the R&D establishment and the military.

Looking at fissile material production, one can only be skeptical. The factor limiting the impact of unilateral and gradual initiatives most is status and prestige. Security considerations play a role but are only one explanation.

A third field where unilateral steps could work is the conventional-nuclear nexus. India could explicitly follow a strategy of non-offensive defense and refuse any ambitions of rapid military victory through conventional strikes against Pakistan. This could reduce the dependency of nuclear weapons in Pakistan's security policy.

The implications for politicians are two-fold: first, unilateral initiatives are possible. But they are more likely to be closer to Etzioni's approach than to Osgood's. Second, the "stronger" party should begin a gradual arms control approach because of its influence on the weaker party.

This paper provided a basis for further research. Relevant areas are the relations between China and the US and between the US and North Korea. How promising is a strategy that relies on informal unilateral steps and initiatives? Can some of the stumbling blocks that lay on the road to stability be removed? Can the gradual arms control strategy help to transform conflicts? Questions for political science are: What methodological approaches can help to measure the impact of unilateral steps? Are the mentioned criteria enough or are crucial points missing? Whatever the answers are, arms control should not be limited to legally binding treaties.

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