On Thomas Schelling's Deterrence Theory

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Introduction

Statistics show that no more than about 30% of Japanese people believe that the Japan-U.S. Security Treaty is "useful" for Japan's peace and security[1]. While it would not be unusual for one to consider public opinion not to be a factor in national security, at the same time public opinion also could be considered to be at the core of national security. Experience shows that sometimes people feel uneasy even though they are secure, or feel at ease even though they are not secure. If peace of mind is subjective, then leading the public to peace of mind by explaining security, backed by objective grounding, is one important role of national defense[2].

But what serves as objective grounding of security? What acts can be said to represent security? Strategy studies have accumulated answers to these questions[3]. To begin with, even understanding of the goals of what should be protected, and to what extent, by national security is not necessarily shared, and in some cases may change. Barry Buzan and other members of the Copenhagen School of Security Studies have discussed these points from the perspective of securitization[4]. The spread of an understanding that security is not something that actually exists objectively but depends on what are deemed to be security issues (the

spread of opinions) is an outstanding effort that astutely observes the content of security[5]. The inability to think that lies dormant in conventional wisdom at an unconscious level can be said to have come to be considered one of the greatest threats to security. Of course, this does not mean that conventional wisdom is useless[6].

With regard to deterrence, the theme of this paper, conventional wisdom must be recognized with regard to its relationship with fear. If we consider the ultimate definition of deterrence to be holding something back, then naturally the core of deterrence would consist of the cycle of avoidance of fearful outcomes and restraint from frightening actions. But under conditions of complex situations and thinking (such as when there are multiple sources of fear; conditions of time difference; probability; when there is room for the introduction of techniques into negotiations with enemies, who are the sources of fear; when there are differences in behavioral principles between individuals and organizations regarding decision-making; or when anticipated impacts differ between insiders and outsiders), is not necessarily a simple case of being able to converge matters into the category of fear. In this sense, there is a need for a process that delves deeply into the functional mechanisms of deterrence, temporarily leaving conventional wisdom and intuition aside.

Based on this point of view, this paper will attempt to address two subjects. First, it will confirm the classical understanding of deterrence in strategy studies[7]. Then, by applying this theory to the specific strategic environment and actual military preparedness of Japan, it will attempt a close examination of the theory. However, since at times the latter will involve large-scale topics, in light of limitations of space and the author's own current capabilities, this paper will leave a systemic discussion through practical case studies as a topic for another study, and instead will only identify the relevant focal points and points at issue[8]. That is, the second issue to be addressed in this paper is that of discussing what kinds

of focal points and efforts are needed to develop a practical theory.

Two leading works in particular that address the classical understanding of deterrence are *The Strategy of Conflict*[9] (1960) and *Arms and Influence*[10] (1966), both among the main works of Thomas C. Schelling. Since this is not a book review, it will not focus on these two worlds comprehensively or exclusively. Instead, it will use them as materials for reconsidering the kind of theory on which thinking about deterrence should be based, as outlined above[11].

It also should be recognized in advance that the following process, which at first glance would seem an academic theory naturally involving theoretical consideration of deterrence theory, is more deeply related to the stages of advancement of science and technology and development of social conditions in response to these than it is to theory itself. This is because not only is the progress of deterrence theory (for better or worse) something that could not have occurred without the advent of nuclear weapons[12] but strategic thinking influenced by the distinguishing features of such weaponry and science and technology[13] itself actually can be considered to have a greater impact on points of view and arguments than the individual properties and specialized fields of theorists[14]. This point will be touched on in the Conclusion as well, in connection with the current situation.

Still, the strategic theory developed by Schelling did not address specific deterrence systems such as where and how to deploy such technologies and weapons. While these points depend heavily on the conceptual structure of strategy theory (or strategy studies), ultimately this is because it addresses the fundamentals of strategy theory. That is, specific strategy on the types, quantities, and locations of missiles and aircraft to deploy, and how to connect them to tactics, are considered matters that should be studied based on specialized military knowledge when applying the theory of deterrence, as strategy theory, to individual

strategic environments. In this sense as well, it should be possible to approach a practical, complete strategy theory through not merely sharing strategy theory among researchers and strategists, but promoting a deep and broad understanding of it among military specialists as well, thus also incorporating their ideas and thinking.

Schelling was awarded the Nobel Prize in Economics in 2005 for his contributions to understanding cooperation and conflict[15]. Specifically, he described his basic ideas beginning with his "Essay on Bargaining" published in the *American Economic Review* (1956), and in his essay "Bargaining, Communication, and Limited War"[16] published in the first issue of the *Dispute Resolution Journal* (1957). Schelling recalls that at that time he lacked a sufficient understanding of game theory, but with the publication in 1957 of *Games and Decisions* by Duncan et al., he finally familiarized himself with game theory. Thus, his game theory is not simply a repetition of others' ideas[17].

Schelling's strategy theory starts by looking at each conflict as a process of negotiation. In negotiation, it is important to recognize each other's intent. Intent includes both explicit intent and intent that is not expressed understandably in text and words. Surmising each other's intent is not necessarily conducted on a rational basis only, including cases in which no information at all is available and those in which means of communicating intent are limited. Focusing on this point, Schelling envisions a structure under which focal points affect the development of individual negotiations (that is, individual conflicts).

1. Deterrence theory
(1) Nature and positioning

According to Glenn H. Snyder, the crucial deference between deterrence and defense is that deterrence is primarily a peacetime objective, while defense is a wartime value[18]. Seen in this way, the essence

of deterrence theory can be said to be peace studies[19].

On the other hand, it goes without saying that in some ways, deterrence theory is inseparable from spine-tingling fear. Even if the time of using nuclear weapons as an explicit threat, as in the deterrence strategy of the U.S., under the theory of mutually assured destruction (MAD) announced in 1962 by John F. Kennedy and actually employed between the United States and the Soviet Union during the Cold War as a system of fear, can be considered to have come to an end[20] since the end of the Cold War and particularly since the start of the 21st century, the principle itself remains unchanged[21].

Since deterrence is not visible to the eye, its presence and functions can be ascertained only indirectly by observing what can be considered to be its impact. That is, its presence and functions are difficult to understand. While the lack of an attack can be considered to show that deterrence was successful in preventing aggression, at the same time it probably can be considered unrelated to deterrence as well. For example, even though both Britain and France were committed to preventing a German invasion of Poland in 1939, they did nothing to stop it. This probably could be seen either as a failure (rupture) of British and French deterrence or as a lack (from the start) of deterrence itself.

This is related to the fact that, as research subjects and methodologies, deterrence theory and, by extension, strategy studies in general are, by their nature, not well suited to positive study. Unlike academic fields where positivism is the mainstream, deterrence theory and strategy studies essentially are addressed by considering how to propose and discuss models, with a focus on conceptual abilities and logical consistency[22].

(2) Coerced bargaining

So how can the thinking of Schelling, as a leading proponent of deterrence theory, be seen in light of the realities of today[23]? Here we will

focus on the concept of coercion as an introduction to this topic.

While generally speaking the concept of coercion has not been considered to require a strict definition[24], as used by Schelling "coercion" plays an important role in the formation of his theory and has a specific meaning[25]. Initially, it was explained simply as "exploitation of potential force,"[26] but later, in *Arms and Influence*, he defined and explained it in greater detail. Essentially, he separated the concept of force itself from the role (function) of force in bargaining, considering the latter to be "coercion." Thus, he saw coercion as a factor by which an intention is released, backed by the threat of force[27].

This concept of coercion is envisioned as causing the other party in bargaining (reconciliation of individual intentions) to move in the direction of accepting one's argument. (According to Schelling, force that does not satisfy this requirement is not coercive force.) Unlike the exercise of force itself, bargaining will not be considered fruitful unless the other party is encouraged to act based on its own intentions. While this involves mutual deception, it also leaves room for misunderstanding. Because of the involvement of elements such as these, even if our force is inferior to that of the other party, depending on how bargaining progress there is a possibility that we could secure the advantage, while of course we also can expect the possibility of the opposite occurring.

The question at issue is how one's case is communicated, and how it is received. The results of bargaining are determined by interaction among a wide range of factors, including communication and receipt of information and proposals, interpretation, and inference. In some cases, deterrence will cause these factors to function and succeed overall, while in other cases it will cause them to break down. In employing coercion as described above, naturally we do not simply expect to overcome the other party by force. Rather, essentially it is sufficient to employ just enough (in terms of quality and quantity) to act on the other's intentions.

In this sense, nuclear weapons are a typical example of weapons that have been considered forceful enough to lead to coercion. How strategically to deploy and position these in a state of readiness depends on how we can communicate our intentions to the other party accurately based on ascertaining its intentions as accurately as possible.

In this way, Schelling consciously and scientifically studied the function of weaponry in negotiations, separately from their original role (of defeating the enemy)[28].

(3) Results of threats

Schelling considers national security policy[29] as a combination of deterrence and defense[30]. Under this way of thinking, defense involves strategic deployment of weapons and positioning them in a state of readiness. On the other hand, weapons have an impact other than their essential functions (force), and this can be manipulated to give them a deterrence function. Schelling studied such manipulation scientifically. For this reason, we must consider their impact and influence separately as well.

In general, weapons are focused on as the source of force. But weapons only begin to become worthy of being described as military readiness once they have been deployed and used in accordance with certain philosophies and tactics (i.e., with some kind of meaning), and the difference between this and the various effects arising from the presence of weapons itself must not be overlooked. That is, weapons themselves, in such a pure state, are not things organized skillfully for a purpose, as could be referred to as force (to control directions), but merely are things that could potentially be recognized to (have the ability to) impact others in various ways. Thus, *Arms and Influence* considers the nature and form of weapons as they are and their impacts, including unintended ones, as well as how to control these[31]. The title reflects the need to communicate both "arms and

influence."

Schelling is not a specialist in military studies. For this reason, he relies on the views of experts on the matter of defense while making (the unexplored field of) deterrence his primary focus. However, deterrence and defense are presumed to be correlated to each other. There is a difference between readiness based on using weapons solely to increase force (that is, for the intended purpose of defense only) and readiness with an eye on deterrence functions. Since both are paid for by national defense spending and force is more easily recognizable to the eye, there is a strong tendency toward readiness based on force. However, it is important that national defense policy be based strategically on how to combine the powers of defense and deterrence.

In doing so, if increasing force would lead to increases in both defensive power and deterrent power, then it would appear that a country unencumbered by budgetary restraint would not need to maneuver the two elements very much. Schelling points this out sharply in his own model. His conclusion is that it is risky to increase force too much. This is because excessive threats could lead to a failure of bargaining (and building some kind of consensus, which is the objective of bargaining) (see below).

Based on the above, the main subject of interest in this paper can be described more directly as whether or not it is possible for a party that is relatively, or considerably, weaker in terms of force to deter a stronger party[32]. This paper will examine, from the classics, the question of what kinds of perspective can be found concerning this point, as an issue of the effects of threats.

While of course recognizing that international relations in aspects such as politics and economics, or the social structures and cultures of individual countries, may be important factors in such deterrence, from the point of view of *Arms and Influence* this is recognized as a limited

argument centered on deterrence as an effect of the way weapons are used (primarily the way of arranging equipment posture). The main point is purely to pursue the possibilities and limits of military deterrence[33].

Schelling considers deterrence as an outcome of bargaining. Similarly, he sees war as another outcome of bargaining (i.e., failure of bargaining). This is because if deterrence (avoidance of war) were successful, then the losses caused by war would not be suffered. The same is true for the winning side in a war.

2. The credibility of threat: Would punitive measures really be carried out?

(1) The structure by which credibility is generated

Normally, conflicts arise between parties with competing interests. For this reason, the fact that the parties to a conflict actually have common interests tends to be overlooked. By focusing on this, Schelling identifies avoidance of tragedy as a common interest. This refers to a consciousness of the harm suffered by both parties as a result of conflict, as a tragedy to be avoided above and beyond the issue of winning or losing the battle (i.e., pre reconciliation game as a nonzero-sum)[34].

Is it not the case that even the party posing a threat would, if possible, prefer to avoid a battle? Do not both sides want to avoid a battle as much possible? Does not the act of posing a threat itself express the true desire of avoiding a battle? This way of looking at the issue holds that both sides to a dispute are negotiating to find middle ground to avoid a battle.

As used here, bargainig refers to an approach to consensus building by providing, and obtaining various fragments of information, not simply by verbal communication. It is even possible that both sides might be unable to exchange opinions or information at all. Sometimes assistance might be required from not only the context of communication but also things such as conventional wisdom and recognition patterns originally shared by both

sides[35].

A battle of interpretation arises in the heads on both sides, through an infinite loop of questions such as, "How does the other side see our intentions?""How does the other side perceive how we see its intentions?" "How does the other side perceive our recognition of this situation?"[36] What is important here is not the kind of conclusion led to by this process. Rather, it is an awareness that simply modeling the process through the conclusion shows that it is this type of battle of interpretation of intentions. That is, Schelling's theory of credibility is not one of quantitative probability based on comparing the numerator and denominator of a situation. Schelling considers the credibility of a threat more in qualitative terms and sees focal points as influencing the credibility of a threat.

A focal point is a middle ground that serves as a point at dispute or a point focused on in bargaining. Since the concept attracted attention after its proposal by Schelling, it is also known as Schelling points. It is explained by using the example of a game in which players unable to communicate with each other try to achieve alignment (reconciliation). There is no absolute correct answer, and the conclusion will vary with the relationships, conditions, and contexts of the players, which affect what is considered the easiest way to achieve alignment. For example, assume three figures, A, B, and C. A and B are completely identical squares and C is a triangle. If the players, who are unable to communicate with each other, were asked to choose the same figures, the choice of C would be the correct answer. This is because, since there are two identical squares, the probability of both sides choosing the same figure in the case of a square would be one-half that of a triangle. This means that since the goal is alignment between both players, the correct answer is to seek the answer best suited to alignment (clearly the triangle in this example).

But what about a case in which the preferable focal point is not so obvious? In this case, the essence of the focal point is stressed even more.

That is, it is recognized that feelings (which also could be called ascertaining the situation) are more important than reasoning in such a case[37]. For example, assume a child, contrary to his parent's scolding, plays video games for a very long time. The parent warns the child that he will not be fed for three days as punishment. From the child's point of view, this would be a case of imbalance between crime and punishment, as the parent would starve him, and for three days at that, simply for having played video games. Accordingly, he does not see the punishment as being credible, and he ignores the parent's warnings. The child believes that the parent too probably is aware of this imbalance and suspects that the child has noticed it as well. The child also suspects that the parent sees the child as having noticed that fact as well, and the cycle continues. There is no definitive or coclusive answer. This is what is referred to as feelings in this case[38].

More than the parent's decisiveness or personality, this situation is supported by a general, objective balance between crime and punishment, which actually is quite removed from the properties of the parent himself. In a situation in which neither party knows the other very well, or no information at all is available, then the way each party sees matters and points at issue that stand out and are focused on in that context, and the best way of thinking about them—that is, the formation of focal points—becomes central to consensus building (or convergence)[39]. Of course, a parent and child have a history together and understand each other's pattern of behavior to some degree, and bargaining could proceed based on the assumption that the parent is one who disciplines his child fiercely. But in the case of deterrence between two opposing sides, it would be no exaggeration to say that there can be little expectation of mutual understanding between them. In the conflict between Israel and Palestine (the Intifada), Israel attacked rock-throwing Palestinian protestors using fully armed military. Probably some of the rock throwers

did not believe that such a response was possible. This is a case of a lack of credibility. Basically, the same mechanism applies to the credibility regarding whether a conflict fought using conventional weapons could escalate to the use of nuclear weapons. Put another way, a nuclear rivalry is a case in which a balance is achieved because there is sufficient credibility to the focal point that either side would retaliate with nuclear weapons if the other side used them first[40].

But how, specifically, can a tacit understanding be formed that an act warned of would in fact be implemented? In general, in deterrence intentions and capabilities are important, and building up the latter, capabilities, probably is one effective method of achieving such an understanding. Capabilities concern general structures that would lead to implementation (feasibilities) which include not only physical possession of weapons but also factors such as improving proficiency in their use.

In such a case, threatening an excessive response that would greatly deviate from the focal point would reduce credibility. It is important to establish detailed, appraisal levels instead of escalating rapidly.

Regarding the 1969 border dispute between China and the Soviet Union,[41] which ultimately led to a fierce military conflict in which both sides showed their readiness to use nuclear weapons, it has been pointed out that China in particular did not expect such a degree of escalation at first, and that its understanding changed as the situation escalated. This can be seen as a classic example of a case in which both sides were unable appropriately to form, or to understand, the focal point of deterrence. The focal point should have been the fact that both China and the Soviet Union, which were engaged in repeated tensions and conflicts in the border region, saw incitement by each other while deploying numerous forces along the border as an intent to engage in the use of force.

(2) Commitment as a way to increase credibility

Based on the above understanding of the relationship between the credibility of a threat and the focal point, we will review some key points related to the ways of using commitment to increase the credibility of a threat.

While the concept of commitment is included in arrangements such as promises, norms, and systems[42], Schelling focuses on its functional aspect—that is, limitation of the scope of options available (in some cases, resulting in only one available option)[43]. While in general we tend to think that in any case it is better to have more options, commitment has been identified as a method for maintaining the credibility that an act warned of would be implemented when reducing the number of options available would help to do so. This is the principle that, for example, when faced with roads leading in four directions, if one has decided that they would choose the road to the right without question, then destroying the other options would help to increase credibility.

The example Schelling gives is the act of disabling the brakes before a game of chicken. Another example is Cortez burning all but one of his ships after reaching the New World. This shows observers (whether friend or enemy) that there is no way back—that is, that the option of backing down has been lost. If one's back is against the wall, commitment may be used as an attempt to turn the tables by reducing the available options.

In this way, commitment is a method of increasing the credibility of a threat. At the same time, commitment itself may lack credibility. For example, a threat to burn the ships may be a firm commitment, but if substitute measures are taken into account as well, depending on matters such as whether any are concealed or new technologies are created, then the credibility of the commitment itself will be called into question. That is, while some commitments may be perfectly suited to their purposes, others may be inadequate, and the technique itself may be called into question.

(3) Punitive deterrence and extended deterrence

The recognition of nuclear weapons as weapons of mass destruction, in the sense of their indescribable savagery and unreasonably broad scope of damage, reflects not only knowledge of their theoretical and empirical power but also the major impact of memories and records of the actual damage suffered in Hiroshima and Nagasaki. Put simply, nuclear weapons are the most feared class of weapons, and even if theoretically punitive deterrence can be thought to involve punitive measures other than the use of nuclear weapons, in reality punitive deterrence refers exclusively to nuclear deterrence.

Extended deterrence is one typical issue that requires the technique of commitment[44]. In general, not only is credibility likely to become an issue in alliances but credibility is an issue in international agreements such as treaties and in compliance with international law, which could be described as a system consisting of such arrangements. But extended deterrence is distinguished by the fact that even though it shares these aspects of general issues, it also requires greater doubt about credibility. This is because extended deterrence is a system backed by a commitment to use nuclear weapons.

In light of the characteristics described above, nations are reluctant to use nuclear weapons even if necessary to protect their own countries. So how much credibility can there be in a commitment to use them on behalf of another country, even an ally? If a country's territory were invaded and it responded by exercising its right to self-defense, would its allies really use nuclear weapons as punitive measures against its enemy? The question becomes even more difficult if the enemy also has nuclear weapons.

Such doubts are inherent in extended deterrence. This is the issue of the credibility of extended deterrence. If such credibility cannot be maintained, then extended deterrence cannot be effective. Commitment techniques provide one answer to the question of how (or whether) a credible threat

can be realized.

3. Applications to security
(1) Applications to U.S. nuclear strategy

Next, we will consider deterrence in the context of security, based on the above understanding of focal points and commitment. In general, deterrence has been considered to fall into the two categories of denial deterrence and punitive deterrence. The essence of the formula of denial deterrence is deduction from the gains expected by the party engaging in military action of losses arising from the response of the enemy. Put simply, this is a calculation of interests.

Punitive deterrence, on the other hand, generally is considered to involve ideas that cannot be contained in the calculation of interests. Since in particular the losses included in the calculation of interests are expected to be much more severe, the idea is held commonly that since no prospect for profit or loss can be identified, the concept of calculation of interests becomes meaningless. Thus, denial deterrence and punitive deterrence have been considered to differ completely in their nature.

On this point, once again Schelling's model stresses the qualitative difference between conventional weapons and nuclear weapons[45], arguing that the credibility of punitive deterrence is an issue not of calculation of interests but of the credibility of implementation of punitive measures with regard to failure to exercise a commitment[46]. What's more, he also explains that, with regard to the U.S. government, this also involves the issue of a failure to demonstrate (at least in a practical sense) appropriate measures to secure the implementation of such punitive measures.

Separately from such a commitment to a threat binding on oneself, he sees mutually assured destruction (MAD) as (a commitment having the nature of) an exchange of hostages[47] and explains the the efficacy of this method[48]. By transferring from our side to the other party this right to

decide on implementation of punitive measures, we can expect the other side to exercise restraint and at the same time we can eliminate doubts about performance of our commitment.

The issue of threat credibility has come to be seen as a general issue concerning the efficacy of not only extended deterrence but coercion as well. Threats employed as means of coercion have, historically and experientially, employed escalation as a response in international relations in particular.

This escalation is a method of inspiring fear by establishing responses at even higher dimensions than a threat currently faced. Schelling calls the act of pressing the other side to raise the level of threats and force a severe situation to the brink of even more severe acts of force "brinkmanship." This was inspired by the time John Foster Dulles, who served as U.S. Secretary of State during the Eisenhower Administration in the 1950s, described the need for capabilities to enable stopping just short of war in relations with the Soviet Union, and Adlai Ewing Stevenson II criticized Dulles as "boasting of his brinkmanship"[49].

In practice this brinkmanship essentially means escalation, and for escalation to function effectively it is essential that each stage of a threat be credible. Put another way, if commitment to each stage of escalation lacks credibility, then escalation would not function well.

Schelling's answer was to create on one's own a situation in which one must act in accordance with one's commitment and communicate it to the enemy. This is a technique of increasing credibility by creating a situation in which one side has no choice but to comply with the commitment under conditions of decisions and judgments that do not factor in the party's intentions (in some cases leaving this to the enemy or to nature).

Schelling lists three types of efforts as such situations in which there is no choice but to act in line with a commitment. These can be considered more exemplary than comprehensive. Schelling argues that the side that

made a commitment—that is, the side employing deterrence—must (1) certify that it must carry out the commitment, (2) create benefits from carrying out the commitment, or (3) enact clear punitive measures for failure to carry out the commitment (i.e., create a situation in which it wants to avoid punitive measures by carrying out the commitment)[50].

First of all, historically when the credibility of U.S. extended deterrence was called into question in Europe during the latter half of the 1940s, the administration demanded from Congress authorization to station U.S. army forces in Europe even during times of peace. The administration explained this at the time as being intended not to defend Europe from the more powerful Soviet forces but to demonstrate clearly to the Soviet Union that any incursion into Europe would automatically involve the U.S.[51]

This is a method that corresponds to that described under (1) above. To use a somewhat negative allegory, the U.S. forces stationed in Europe in this case were intended not to intercept the enemy but as a kind of showcase display[52].

However, there probably is a need to consider this effort to bind allies together through such manipulation separately from the judgement to use nuclear weapons. Put another way, it should be necessary to separate the use of conventional weapons from the use of nuclear weapons in extended deterrence, with increasing the credibility of the latter threat requiring (although there are some interrelated elements) another dimension of efforts.

(2) The supremacy of the first nuclear strike

A surprise, or first, strike generally has been considered advantageous in the case of conventional weapons. Until the 1960s in particular, the side striking first with nuclear weapons[53] had been considered to have an overwhelming advantage[54]. This was because it was thought that a nuclear

first strike would lead to a complete loss of the enemy's retaliation capabilities. However, the conditions of nuclear weapon development changed before the start of the 1970s, making it more difficult to fully destroy the enemy's retaliation capabilities with a first strike. Conditions in which even some nuclear relation capabilities remained after absorbing the first strike would lead to an extremely severe situation, involving a very high likelihood of nuclear retaliation[55].

This situation can be summarized as one in which the low threshold to a first nuclear strike was changed in the late 1960s into one in which an improved likelihood of survivable weapons led to much stronger hesitation regarding launching a first strike.

It is important to note that even though it became more difficult to launch a first strike for fear of retaliation, the thought still persisted on both sides that it might be advantageous to launch the first strike, so that there was some aspect of inducement to launch the first strike. Schelling considers this tension under which one side is induced to take the initiative out of fear of the enemy doing so to be an issue of maneuvering between two sides that do not trust each other. It resembles a standoff between a thief emerging from the shadows and a homeowner.

In this case, if doing nothing would be most advantageous to both sides, then the mechanism encouraging one side to take action before the other would not apply. But the problem here is the absence of any guarantee, on either side, that the other side would not venture a first strike.

(3) Proving credibility

What I mean by proof in this context is not one of a scientific, or absolute cause-and-effect relationship. Rather, it is the kind of relationship that encourages a mental process in which one feels that the situation is closer to the truth end than the false end on a spectrum of proof.

Prominent historical concepts that have reflected this fact in the specific

context of deterrence include (a) Madman Theory and (b) escalation.

Peter Navarro holds that even today Madman Theory is employed in the strategies of leaders such as Vladimir Putin, Kim Jong-Un, and Donald Trump. He argues that while these leaders are not irrational presences but rather highly rational ones, they act as madmen to increase the credibility of their commitments[56]. Historically, it is well known that Richard Milhous Nixon also employed Madman Theory[57]. The goal is to make commitments more credible by suppressing ordinary expectations that excessive punitive measures would not be employed (since doing so would lead to rancor) by inspiring belief that the leader, as a "madman," might actually do it. Leaving aside the issue of whether or not Navarro's evaluation of Trump is absolutely convincing, clearly it can be useful for reference when looking at his recent tactics vis-a-vis North Korea and Iran.

The other concept, (b) escalation, is a deterrence strategy aiming to force the other side to give up its ambitions by preparing responses in stages (like steps of a ladder) leading to the ultimate stage of general nuclear war, applying fear and pressure on the other side by forcing it to make a decision at each stage (Schelling calls this "threats that leave something to chance"). Each step up the ladder requires a deeper level of judgment, with full-scale nuclear war awaiting at the top[58].

Robert Powel argues that there are two types of escalation (which differ in terms of the sources of fear). One of these is an escalation proposed by Schelling, in which the progress of escalation causes the situation to get out of control at an ever faster pace, involving the fear that once escalation has begun it could lead to an inescapable slide into full-scale nuclear war. The other evokes fear in the sense that a solid defense, implemented in stages, could ultimately lead to the reality of use of nuclear weapons as severe punitive measures (having the effect of making it seem as if steady progress is being made in this direction)[59].

To use a familiar example, if an employee has been named by his or her employer to be responsible for emergency measures if needed on a holiday, then even though he or she should not have to do anything unless an emergency arises the employee will find it hard to relax on the holiday. Likewise, even if the odds of being killed in a game of Russian Roulette were not the fearsomely high level of one in six but instead were just one in 100, one still would not want to keep pulling the trigger, or even to participate just once. While they involve differences of degree, each of these is a threat that "leaves something to chance." This way of thinking holds that the source of fear is in fact the uncontrollability that comes from the fact that it is uncertain, or unpredictable, whether or not a problem would arise.

Put it another way, uncertainty itself can be fearful. A loaded gun pointed at the temple is a very serious situation, not a game. Such a game would never be played. It is the uncertainty that draws people in and makes room for participation as a game. It has the potential to weaken the initial resolve not to play the game at all. Surely, no gambler enters a casino intending to lose money. Even though they would lose, gamblers are attracted by the possibility that they might win some money, like fish to bait. The thought that they are being fooled is overcome by the idea of nothing ventured, nothing gained. Put simply, this is the same mechanism as a gambler buoyed by expectations walking in unconcernedly to the casino without realizing that it is a den of thieves. The longer one continues to play the game, the greater the inevitability of risk. Risk and pressure will continue as long as the game does. Although this is a case of uncertainty, it is a certain fear, as a threat that "leaves something to chance."

Conclusion

Based on the discussion above, we can see that this fundamental

element of deterrence remains valid even today. At the same time, when attempting to apply this concept it is necessary to make preparations based on clearly ascertaining the strategic environment. In particular, the strategic environment is changing dramatically with impromennts in missile precision and innovations in technologies for identifying enemies, and Keir A. Lieber and Daryl G. Press have argued that application of nuclear deterrence requires considerable caution[60].

The key point of deterrence theory as advocated by Schelling and numerous thinkers influenced by him is survivability of capabilities for nuclear retaliation, as touched on in this paper[61]. While in theory this point is not limited to nuclear weaponry alone, essentially it is a mechanism of deterrence focused on in particular with regard to nuclear deterrence. While arguing that nuclear deterrence is based on the fear of retaliation, Lieber and Press see the current situation as one in which missile precision and capabilities to find one's enemy have improved so much that it is very difficult to maintain retaliatory capabilities or hide from one's enemy.

Even so, they retain the theoretical foundations of Schelling's deterrence theory. This is because, as we have seen in this paper, the forms of structurally ascertaining issues through calm observation that sees conflict as a process of bargaining, dynamic analysis that sees the (hidden) functioning of focal points in that process, commitment techniques serving to increase the credibility of a threat, and proposal of the concept of a threat that leaves something to chance have not lost their luster. While this argument was blazing during the Cold War years, it must not be trivialized as a way of thinking specific to the Cold War alone. This theory is an attempt to purse the essence of human behavioral patterns, and it should be considered unquestionably applicable to today's strategic environment as well.

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1 FY2017 opinion survey (by the Cabinet Office), "Opinion survey on the Self-Defense Forces and defense issues" (March 12, 2018). In response to question under "2-6. Awareness of Japanese defense: (1) Thinking on the Japan-U.S. Security Treaty," "Do you believe that the Japan-U.S. Security Treaty contributes to Japan's peace and security," 29.9% of respondents answered "yes," 47.6% answered "more yes than no," 12.6% answered "more no than yes," and 3.1% answered "no."

2 The psychological foundations of security have been a subject of academic discussion in Japan since long ago. See Masamichi Royama, "Psychological and theoretical foundations of security," *International Relations,* winter 1957, pp. 118-127.

3 While various strategists, politicians, or researchers long have espoused various definitions of strategy including their own distinctive concepts, this paper sees it as merely "measures or techniques to allocate (limited) resources to achieve an objective" and will not go into it in greater detail. In his Cuban Missile Crisis Address to the Nation in 1962, John F. Kennedy touched on the elements of strategy, citing the following three elements: diagnosis, guiding policy, and an action plan. See, JFK, "Cuban Missile Crisis Address to the Nation" (delivered 22 October 1962), *American Rhetoric: Top 100 Speeches*, available at [https:// americanrhetoric. com/ speeches/jfkcubanmissilecrisis.html], accessed 14 August 2019.

4 For now, refer to: Barry Buzan, Ole Waever, and Jaap de Wilde, *Security: A New Framework for Analysis*, Lynne Rienner Publishers, 1997; Barry Buzan, "Rethinking Security after the Cold War," *Cooperation and Conflict*, Vol.32, Issue 1, 1997, pp.5-28.

5 Indeed, this is not intended to argue for the extremely relative position that discussions of securitization do not include traditional or mainstream security topics. For example, concepts such as "maintaining integrity of territory" and "preserving basic political and social integrity" are mentioned repeatedly in the practical documents of various countries, such as the U.S. National Security Strategy, and none would argue that these are counter to the facts.

6 Concepts such as human security (a concept based on giving top priority to the security of individual human beings and eliminating or alleviating fear or want) envision deviation from the concept of targeting the security of the nation or the public. For this reason, they may lead to tension with traditional security (i.e., it differs in fundamental values), and thus they may lack value for increasing awareness of security.

7 Perry, who played a central role in U.S. security policymaking from the Cold War through the post-Cold War years, has published his own experiences and views in the form of memoirs, in which he describes how, especially in terms of practical administration, nuclear deterrence stressed non-theoretical factors. While of course this is an important perspective, this paper focuses more on theory than experience. William J. Perry, *My Journey at the Nuclear Brink*, Stanford Security Studies, 2015, p.46.

8 Regarding the interaction between deterrence and theory of deterrence, even, for example, thinkers who see the stationing of U.S. Marines in Okinawa to have important meaning in terms of theory of deterrence (the relationship between punitive deterrence and denial deterrence) (such as Yukio Okamoto, Noboru Yamaguchi, Kei Morimoto, and Takashi Kawakami), may be fiercely critical of the lack of clarity. Mike Mochizuki, "Deterrent power and the U.S. Marines in Okinawa: A critical examination," New Diplomacy Initiative (ed.), Illusive deterrent power: A new axis in security policy from Okinawa, Tokyo, and Washington, Junposha, pp. 106-116.

[9]   Thomas C. Schelling, *The Strategy of Conflict*, Harvard University Press, 1960.

[10] Thomas C. Schelling, *Arms and Influence*, Yale University Press, 1966.

[11] Lawrence Freedman argues that nearly all deterrence theory since Schelling has been influenced by him. Lawrence Freedman, *Strategy: A History*, Oxford University Press, 2013. Although the term "reconsideration" is used here, it also should be noted that it is a study that adopts a different point of view (one that holds that the subject this not been considered properly until now), based in particular on a strong awareness of the issues concerning Japanese defense policy. For example, Sato (2017), arguing that the first time the Japanese government mentioned specific cooperation in U.S. deterrence policy (efforts to increase the reliability of extended deterrence) in its overall defense framework was in 2010, a half century after the Japan-U.S. Security Treaty took effect in 1960, bases his study on seeing this surprising delay as problematic. Yukio Sato, "An extended umbrella: U.S. nuclear deterrent power and Japan's security," Jiji Press, 2017.

[12] Attempts have been made to define nuclear weapons in international law in order to regulate them. For example, see Article 1, c of the Treaty of Rarotonga; South Pacific Nuclear Free Zone Treaty (UNTS No.24592), signed on 6 August, 1985. In addition, see Hisaichi Fujita, "Legal and strategic complications of nuclear weapons" (Yearbook of world law, Vol. 18, 1998, pp. 66-87) for a view that holds that in light of the strategic aspects of their overwhelming destructive power, nuclear weapons in fact differ from weapons themselves.

[13] For example, the Minuteman missile, which uses solid fuel, was developed to eliminate the time required to fuel Atlas and Titan missiles with liquid fuel in light of the time it would take for a Soviet missile launch to reach the U.S. and to be capable of launching from silos difficult for an enemy attack to reach. The Polaris submarine missile system made detection and attack by the enemy extremely difficult. These technological innovations also served to shift deterrence strategy toward a denial approach.

[14] Some deterrence theorists during the so-called golden age argued that the category of nuclear weapons encompassed at least the three categories of nuclear bombs, hydrogen bombs (thermonuclear weapons), and neutron bombs (which also had aspects of compact hydrogen bombs) and, while actively discussing each of their stages of development and tactical placement, developed theories concerning each.

[15] Schelling also is known for proposing the theory that even small motives of individual actors could lead to large-scale changes, as actions based on them were deployed as interactions in society (his leading work on this subject is Schelling, *Micro-motives and Macro-behavior*, 1978). This came from testing a hypothesis, in investigating the causes of the mechanisms by which human communities form, concerning individuals' preferences about the kinds of people they want to live around them, and it led to the posing of questions that would be precursors of later multiagent simulation. Here too, he can be described as a researcher who has contributed to elucidating mechanisms related to interactions among actors who act while observing their surroundings (or other parties) and how these lead to overall tendencies. He himself said at the time that he was not sure what research was the direct basis for his being awarded the Nobel Prize, and even if this was said half in jest it seems applicable to the way he developed theories that could be applied to a wide range of social phenomena, including even security strategy. His theory is rich in keen implications regarding deterrence in particular.

[16] Thomas C. Schelling, "Bargaining, Communication, and Limited War", *Conflict Resolution*, No.1, 1957, pp.19-36. This too is found in Schelling, *The Strategy of Conflict*, 1960.

[17] In Schelling, *Strategy of Conflict*, 1960, p. 10, he describes his understanding of game theory as analysis of a situation (sorting out our actions in response to the other party's actions and discovering our best options).

[18] Glenn H. Snyder, *Deterrence and Defense*, Princeton Legacy Library, 1961, p.4.

[19] Department of Defense, *Deterrence Operations Joint Operating Concept (Version 2.0)*, December 2006, p. 3, also states, "Deterrence requires a national strategy that integrates diplomatic, informational, military, and economic powers."

[20] Ibid., p. 3. In general, Ronald Reagan's television address on the Strategic Defense Initiative (SDI) is considered to have rejected the fundamental thinking behind MAD. Even so, the SDI is not generally seen to have achieved its clear objective, and some even argue that in this sense the MAD doctrine has not yet ended. However, in this paper the statement that the MAD "principle itself remains unchanged" is limited to the validity of the understanding of the balance of fear that is the principle supporting MAD.

[21] Amid changes in U.S. nuclear deterrence strategy before and after development of the MAD doctrine (large-scale retaliation, flexible responses, MAD, offsetting strategy), in general the direct MAD system disappeared from intentional policies with the abandonment of the ABM treaty by the U.S. and Russia in 2001, but the principle it embodied still remains. That is, in relationships among countries with nuclear weapons a nuclear attack is bound to be met with retaliation, and even if there is no assurance that such relation would threaten the survival of the nation or its people, the essence of nuclear deterrence retains its overwhelming fearsomeness. International relations involving such fearsomeness continue to be generally expected in mutual relations between nations that have nuclear weapons.

[22] While this also depends on the definition of strategy studies, while as part of the process of accumulation of human knowledge the assumption of demonstrative study and accurate citing and criticism of previous studies are essential to scientific studies, since in the case of strategy studies the direct objective is to help secure advantage over the enemy in a life-and-death competition, demonstrativeness is not strictly required. While of course, a demonstrative study would be preferable, in the extreme case a demonstrative study that was not practical or useful in tactical terms would be meaningless as an example of strategy studies (although of course this is not to deny that it might have other meanings besides those related to strategy studies). In addition to game theory, Schelling sees the domains in which development of a theory of strategy is necessary to be "like a mixture" of "organization theory," "communication theory," "theory of evidence," "theory of choice," and "theory of collective decision." Schelling, *The Strategy of Conflict*, 1960, pp. 13-15.

[23] Not only Schelling's work but deterrence theory as a whole through the mid-2000s involves much greater technological limitations than we have today. In particular, in response to the progress of automation technology related to decision making on attacks and defense doubts have appeared with regard to whether under current conditions a deterrence effect should be assumed to apply to human beings alone. For now, before addressing such subjects of applied deterrence theory, this paper simply will examine the basic thinking on deterrence, as a preparatory stage.

[24] The following paper describes how, even though coercive power in a military sense is essential

to air power as well, even today this is not handled systematically to an adequate extent: Karl Mueller, "The Essence of Coercive Air Power: A Primer for Military Strategists,"*Royal Air Force Air Power Review*, Vol.4, No.3, 2001, pp.45-56.

[25] Schelling, *Arms and Influence*, 1966, pp.69-91. Brute force is one example of force that contrasts with coercive force (force manipulated to employ threats to achieve an intention). Schelling, *Arms and Influence*, 1966, Ch.1.

[26] Schelling, *The Strategy of Conflict*, 1960, p.9. A distinguishing feature of Schelling's terminology is that while the concept of application is suitable to force since it is used as is, since deterrence as coercive power is a potential force, which must be drawn out (consciously), he uses the term "exploitation" instead for it.

[27] However, since this discussion is in the context of deterrence with an emphasis on military matters in particular, Schelling argues that a threat should be considered within a more broad-ranging image. He is concerned that the impression of the word "threat" tends to be limited excessively to antagonistic or offensive senses and sees the concept as containing more peaceful, everyday effects (such as identifying a product as "not for sale"). Schelling, *The Strategy of Conflict*, 1960, p.15, f.n.7.

[28] Schelling, *The Strategy of Conflict*, 1960, pp.8-9. Schelling sees it as problematic that not only deterrence but strategy studies themselves have been unable to find academic counterparts. Even the (then-) RAND Institute was not considered a part of academia from his point of view.

[29] Snyder makes the similar argument that the most important objective of national defense policy is to realize deterrence and defense at minimal cost. Ibid, Note 18, Snyder, *Deterrence and Defense*, 1960, p.4.

[30] In general, the English word "defense" probably should be translated into Japanese as "boei." Yamashita, however, has argued repeatedly that in the context of security, and in particular in aspects in which it is considered alongside deterrence, it would be more appropriate to translate it as "taisho" in line with usage in Japanese-language defense literature. Aihito Yamashita, Ch. 15, Yamashita, Tomoyuki Ishizu, eds., Air Power: Strategic principles of air and space (Nihon Keizai Shimbun, 2019).

[31] Schelling, *Arms and Influence*, 1966, Ch.6.

[32] To use an extreme example, while China's military power is much stronger than Japan's at present, if nevertheless China does not forcefully capture the Senkaku Islands from Japan, when considering whether this means that deterrence was functioning or is due to some other factor or chance development, we would explore the possibilities of the former.

[33] Even the classics show a strong awareness of this point. As a typical example, while Carl Philipp Gottlieb von Clausewitz saw strategy mainly as concerning the battlefield, in contrast Sir Basil Henry Liddell-Hart consciously abandoned this limitation in proposing his strategy theory. In light of this fact, in this paper we will address deterrence theory with the nuance of not restricting it solely to military deterrence theory, while at the same time avoiding consideration of deterrence theory in such as wide-ranging form as to include a limitless range of means.

[34] Schelling, *The Strategy of Conflict*, 1960, Ch.4, pp.83-92.

[35] Schelling, *The Strategy of Conflict*, 1960, Ch.4, pp.107-108. For example, regarding the subject of what should be considered retaliation, in the absence of a shared understanding among the parties, an act that one party intended as retaliation might in fact not be seen as such by the

other side.

[36] Schelling, *The Strategy of Conflict*, 1960, pp.54-55.

[37] Schelling, *The Strategy of Conflict*, 1960, pp.57-58. Schelling says of such analysis, "we are dealing with imagination as much as with logic" and notes, in this sense, that "poets may do better than logicians. "

[38] One typical focal point related to security is the line at which a limited war comes into existence. Schelling points out that in a case in which limited, rather than full-scale, war is the mainstream in thinking on war today, just as a limited war requires its "limits," when pursuing stability in the face of war "strategic maneuvers" are necessary, and that where such features are formed (that is, the locations of focal points). Schelling, *The Strategy of Conflict*, 1960, p.53.

[39] Robert Ayson, *Thomas Schelling and the Nuclear Age: Strategy as Social Science*, Frank Cass, 2004, pp.87-112. In addition, regarding the way focal points contribute to tacit bargaining, see Andrea Isoni, Anders Poulsen, Robert Sugden, Kei Tsutsui, "Focal Points in Tacit Bargaining Problems: Experimental Evidence", *European Economic Review*, Vol.59, 2013, pp.167-188.

[40] It is highly valuable to consider the fact that nuclear weapons have not been put to practical use in war since Hiroshima and Nagasaki, not in terms of ethical aspects but in light of Schelling's theory (non-use of nuclear weapons as a focal point). Put another way, Schelling appears to be in awe of the "astonishing" fact that, while a single use of nuclear weapons could easily damage the value that humanity has "cultivated," they have not been used for more than 60 years. Thomas C. Schelling, "An Astonishing Sixty Years: The Legacy of Hiroshima." Prize Lecture. From *Les Prix Nobel*, edited by Karl Grandin, Stockholm, Nobel Foundation, 2006.

[41] Oleg Yegorov, "How China and USSR nearly started WW3", *Russia Beyond* (English), March 2, 2019. For example, while in this dispute use of force is described as having erupted when 55 soviet border guards opened fire at close range on about 300 Chinese troops who had crossed the Ussuri River on the Soviet-Chinese border on foot (the river was frozen during wintertime) and occupied an unpopulated island in the middle of the river (a tiny island of less than 800 square meters in territory, known to the Soviets as Damansky Island), it also has been argued repeatedly by the Chinese that the its origins were in a Soviet attack. No established explanation has taken shape. Lyle J. Goldstein, "Research Report Returns to Zhenbao Island: Who Started Shooting and Why it Matters", *China Quarterly*, No.168, 2001, pp.985-997; Dmitri Ryabushkin, "Origins and Consequences of the Soviet-Chinese Border Conflict of 1969", Iwashita Akihiro ed. *Eager Eyes Fixed on Eurasia: Russia and Its Eastern Edge* (Slavic-Eurasian Studies, No.16-2), 2007, pp.73-91.

[42] Schelling, *The Strategy of Conflict*, 1960, Ch.5, p.132. For example, a promise generally is considered a contractual commitment between two parties.

[43] Schelling, *The Strategy of Conflict*, 1960, Ch.5, p.123. In response to an unwanted invitation, it would be preferable to cite a "prior engagement" instead of pretending to be ill.

[44] In the process of development of U.S. nuclear doctrine, more than a few observers have pointed out the strong relative importance of extended deterrence, strongly conscious of the issues it involves. A recent example is Peter Rudolf, "U.S. Nuclear Deterrence Policy and Its Problems", *SWP Research Paper* No.10, German Institute for International and Security Affairs (Stiftung Wissenschaft und Politik), 2018.

[45] Schelling, *The Strategy of Conflict*, 1960, Ch.5, p.257. In discussing the meaning of limited war, Schelling argues that conventional weapons and nuclear weapons should consciously be

differentiated, not only physically but psychologically as well.

[46] Schelling, *The Strategy of Conflict*, 1960, Ch.5, pp.137-138.

[47] Schelling, *The Strategy of Conflict*, 1960, Ch.5, p.123.

[48] Schelling, *The Strategy of Conflict*, 1960, Ch.5, p.136.

[49] At the time, Stevenson stated this criticism repeatedly against the Republican administration, as the Democratic Party's candidate for President. Online Etymology Dictionary Homepate, URL (https://www.etymonline.com/word/brinkmanship), accessed at 29 August 2019.

[50] Schelling, *The Strategy of Conflict*, 1960, p. 187.

[51] Schelling, *The Strategy of Conflict*, 1960, p.47. At that time, Schelling added his view that due to Berlin's small geographic size, if war were to break out there effectively would be no place that could serve as a safety zone. On the other hand, regarding the stationing of U.S. Marines in Okinawa, Mike Mochizuki sees Noboru Yamaguchi as "acknowledging that they do not serve as a tripwire." Mochizuki (2014), op. cit., p. 109. As these examples show, assignation of meanings is very important to strategy, and identical equipment structurers and troop placements may be seen differently depending on the context.

[52] Schelling describes this using the allegory of a person or thing on display in a "plate glass window." While this does not necessarily directly refer to the meaning of a showcase, in light of Japanese usage it probably should be translated into Japanese as "showcase" or "show window." An even broader translation might be to employ the concept of "*ningen no tate*" ("human shield").

[53] Shin'ichi Ogawa, "Background and issues concerning nuclear 'no first use' policies," *Rippo to Chosa,* No. 309, 2010, pp. 26-40. Ogawa discusses various forms of nuclear first strikes and notes in particular, "There is a need to differentiate between a nuclear surprise attack and the first nuclear strike in a military conflict."

[54] This refers to the first nuclear strike, not to a surprise attack. The first use of nuclear weapons after an enemy attack using conventional weapons is referred to as "first use." Individual countries with nuclear weapons have stated clear positions on whether or not they would be the first to use nuclear weapons in any case. For example, while China (although there are arguments concerning its sincerity) has declared a "no first use" policy, countries such as Britain and France have not rejected the possibility of first use. Sato (2017), pp. 200-208.

[55] However, in consideration of the fear of further nuclear retaliation, retaliation itself may be difficult.

[56] Peter Navarro, "Trump's 'Madman Theory' of Trade with China", *Foreign Policy*, May 2019; Annie Lowrey, "The 'Madman' Behind Trump's Trade Theory: Peter Navarro – a business school professor, a get-rich guru, a former Peace Corps member, and a former Democrat – is among the most important generals in Trump's trade war", *RealClear Politics*, November 20, 2018.

[57] Nicole Hemmer, "The madman theory" of nuclear war has existed for decades. Now, Trump is playing the madman, *Vox*, Jan 4, 2017.

[58] Schelling, *Arms and Influence*, 1966, pp.97-99. Using the Cuban Missile Crisis and other incidents as examples, Schelling says that the essence of a crisis is its unpredictability.

[59] Robert Powell, *Nuclear Deterrence Theory : The Search for Credibility*, Cambridge University Press, 2008, p.6.

[60] Keir A. Lieber and Deryl G. Press, "The New Era of Counterforce: Technological Change and

the Future of Nuclear Deterrence," *International Security*, Vol.41, No.4, 2017, pp.9-49; Lieber and Press, "The End of MAD? The Nuclear Dimension of U.S. Primacy," *International Security*, Vol.30, No.4, 2006, pp.7-44.

[61] Thomas C. Schelling, "Foreword" in Elbridge A. Colby and Michael S. Gerson eds. *Strategic Stability: Contending Interpretations*, U.S. Army War College and Strategic Studies Institute, February 2013. In this "Foreword," Schelling traces the history of arguments concerning nuclear deterrence theory, asks what is meant by "stability" and "strategic stability" and assesses the delicacy of controlling tensions (uncertainty) in connection with nuclear first-strike and retaliatory capabilities, in particular as "unstable" compared to "equilibrium."