“Mutual Probable Destruction”: Nuclear Next-Use in a Nuclear-Armed East Asia?

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I. Introduction

Peter Hayes, Director of Nautilus Institute, writes that John on-fat Wong’s 1982

dissertation, *Security Requirements in Northeast Asia,* provides an important corrective for shallow thinking that informs calls for South Korea and Japan to proliferate nuclear weapons to match those of North Korea or the existing nuclear weapons states in the region. Wong concludes of small states such as the two Koreas in a world where all states are nuclear-armed that: *"Given the vulnerability of the small power and its nuclear forces, enemy destruction is more "probable" than "assured." This condition of pre-emptive instability suggests that among the small powers, "mutual vulnerability" or "mutual probable destruction" is a much more appropriate description of their strategic relationship than "mutual assured destruction."*

II. Policy forum: "Mutual Probable Destruction": Nuclear Next-Use in a Nuclear-Armed East Asia?

Every now and then, scholars of nuclear war stumble across an unknown analysis of superb logic and startling clarity. Here is such a discovery. It is essential reading for anyone interested in the logical implications of the calls in some quarters for South Korea and Japan to proliferate nuclear weapons to match those of North Korea or the existing nuclear weapons states in the region. For the most part, these calls are more political in nature than well thought through. This study provides an important corrective for this shallow thinking.

In 1982, John on-fat Wong wrote a dissertation *Security Requirements in Northeast Asia* at the University of Wisconsin that posited that every state in Northeast Asia had gone nuclear, leaping from three nuclear weapons states (United States, Russia, China) to seven (adding North and South Korea, Japan, and Taiwan).[i] In this imagined world, superpower conflict continued, local conflicts drive local proliferation, leaderships change explosively and regimes disintegrate.

Wong examines four geopolitical scenarios (1990) for Northeast Asia (he included Taiwan). These are: general détente, limited bilateral détente, new cold war, and general cold war. Next, he lists strategic targets for nuclear weapons in each country, basically cities and industrial areas, and then determines the firing point for an attacking nuclear weapon for each of these targets. From this, given blast effects and other degradation such as warhead fratricide, he derives warhead yields and delivery systems required to achieve varying levels of desired annihilation.

These targets are "countervalue" in nature rather than "counterforce" in Wong's approach, because he wants to determine what a generalized nuclear-veto system of multilateral nuclear deterrence would look like if McNamara's notion of Mutual Assured Destruction were applied to each target country in the search for stable deterrence, and then rejig the latter to conform to the local requirements for strategic deterrence given the size of each state and its insecurities as defined in each of the four scenarios.[ii] Wong's nuclear nightmare vision is worth revisiting today because we are now at four nuclear armed states versus two non-nuclear states, and the trend is towards his fully proliferated imagined world.

Wong began by determining that lesser versions of mutual assured destruction were feasible between small and middle powers armed with nuclear weapons. Even without secure assured retaliatory forces on the US model of a three-service strategic triad, they could still wreak "assured heavy damage" on each other even if not the seventy or eighty percent damage demanded by McNamara's best and brightest as sufficiently "deterring" during the Cold War. Of course, the great powers armed with thousands of warheads could still exterminate the medium powers, so the reliability of the medium power arsenals to deter great power pre-emptive attack is inherently low. The inevitable lack of a secure retaliatory capacity on the part of small states suggests that a generalized nuclear veto-system based on universal proliferation in Northeast Asia would be prone to pre-emptive strike in the search by some states for damage limitation.[iii]

Wong notes that small nuclear powers—like North Korea—are more of nuisance value than a threat to the status quo of the nuclear threat system between the great powers. The existence of a number of middle power nuclear armed states such as Japan or South Korea could affect the force ratios between the great power nuclear armed states. Moreover, the small nuclear power is vulnerable to pre-emption at any time, whereas the middle power is much less so, although it could not hope to conduct a pre-emptive strike against a great power nuclear state and hope to survive, at least not for very long.

Wong points out that the relationship between two small nuclear armed states—as would be the case, for example, if both Koreas became nuclear-armed—would be one of mutual vulnerability as neither would have a secure nuclear retaliatory force, and both would have relatively concentrated and easily targeted industry and populations.[iv] In a region composed of great, middle, and small powers like Northeast Asia, only the great powers can wreak mutually *assured destruction* on each other (in fact, only Russia and the United States could do that then or today to each other). The great powers could also inflict mutual assured destruction on middle and small powers, and middle powers in turn could inflict mutually assured destruction on small powers.

Moving along the other direction in scale, small powers and middle powers assuredly could *heavily damage* each other but not great powers; and all the powers could massively *retaliate* against each other(for example, destroy one or two cities, equivalent to "ripping off an arm" as the Gaullists used to say of the French nuclear *force de frappe*) against any power, small, middle, or large. Summarized in Table 1, these distinctions capture some of the effects that Wong anticipates could arise from universal nuclear proliferation in the region.[v]

Table 1: Probable Doctrinal Preferences

Deterrer	**Deterree**		
	Superpower	Medium Power	Small Power
Superpower	AD	AD	AD
Medium Power	AR	ARD	AD
Small Power	AR	AR	MD/PD

AD Assured Destruction AHD Assured Heavy Destruction
AR Assured Retaliation MD/PD Mutual (or Probable) Destruction

Source: J. On-Fat Wong, Security Requirements In Northeast Asia, dissertation, University of Wisconsin, 1982, , p. 77.

It is worth quoting Wong at length to highlight the implications for "stability" in conflicts between middle and small powers if nuclear hawks in each country of the region have their way:

Given the vulnerability of the small power and its nuclear forces, enemy destruction is more "probable" than "assured." This condition of pre-emptive instability suggests that among the small powers, "mutual vulnerability" or "mutual probable destruction" is a much more appropriate description of their strategic relationship than "mutual assured destruction." Once they have acquired some quantity of nuclear weapons, the condition of "mutual vulnerability" has been created. It is possible to imagine asymmetry of doctrines among small nuclear powers (e.g. one pursuing assured destruction while the other superiority). However, the differences in their nuclear arsenals will not alter their vulnerability. This is not surprising since 1) regardless of their doctrinal

*preference, there are real limits to their nuclear arsenals, and 2) the effectiveness of pre-emption by conventional means is enhanced by relatively small and dense target structures and geographical proximity.**[vi]***

The significance of this situation is immediate in Korea today. As Wong explains:

[T]he paucity of means usually forces the small power to adopt a relatively rigid strategic posture and force structure vis-à-vis the large power. This rigidity of posture has a paradoxical effect on the credibility of the small power nuclear deterrent and the stability of the nuclear deterrence system. In a sense, the enhancement of the small power deterrent contributes to the greater overall stability of the deterrence system. However, due to the severe limitations on its capabilities, the real choice of the smaller power in time of crisis is between strategic surrender and suicidal war. There is a built-in instability in this type of situation. Overall crisis stability has been eroded, in fact, by the possession of nuclear weapons by small powers.[vii]

Wong calculates that for one country (in this case, South Korea) to achieve a second strike capability against the other six countries, in his most insecure scenario for 1990 (revived Cold War), would have taken 820 one megaton warheads able to be fired against 600 cities with over 300 million people—an enormous and incredible arsenal for a small power like South Korea.[viii]

More realistically, he notes, to bomb North Korea into the stone age would have taken "only" seventy five 200 kiloton weapons, buttressed by ten more one megaton warheads aimed at China, Russia and Japan (which is assumed in his scenarios to also have become a nuclear weapons state) to deter them from entering the war with the North.[ix]

We dwell on Wong's exterminist heuristic to highlight the threat that past, present (North Korean) and any further proliferation poses to national and human security in Northeast Asia. The risk of nuclear-next use in such a world would increase dramatically and likely in non-linear ways, giving rise to what Wong called "probable assured destruction"—although he reserved this term for the likely fate of small nuclear-armed states in his scenarios.

It took me a while to locate John On-Fat Wong. He did not go into the US national security establishment, as I surmised. Instead, he moved to Hong Kong where he works in a university helping to train the best and brightest minds of this generation to build a sustainable and peaceful future for East Asia.

His ability to envision a fully nuclear-armed Northeast Asia is more relevant today than it was when he wrote it. We are indebted to Wong for his dissertation and permission to make it available to NAPSNet readers.

III. REFERENCE

[1] J. On-Fat Wong, *Security Requirements in Northeast Asia*, dissertation, University of Wisconsin, 1982, available from Proquest dissertations; and published under a Creative Commons license by NAPSNet with the author's permission, at: https://nautilus.org/wp-content/uploads/2014/05/Nuclear-Deterrence-in-All-Nuclear-NEA-1982.pdf

[1] *Ibid*, pp. 12-14.

[1] *Ibid*, pp. 65-66.

[1] *Ibid*, p. 69.

[1] *Ibid*, p. 78.

[1] *Ibid*, pp. 79-80.

[1] *Ibid*, pp. 80-81.

[1] *Ibid*, pp. 358-359.

[1] Ibid, pp. 315-319.

IV. NAUTILUS INVITES YOUR RESPONSES

The Nautilus Peace and Security Network invites your responses to this report. Please leave a comment below or send your response to: nautilus@nautilus.org. Comments will only be posted if they include the author's name and affiliation.

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