

1978

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Recommended Citation

Norton, Augustus R. (1978) "Myopic Visions of The Arms Race: The Immortality of Metaphors," *Naval War College Review*: Vol. 31 : No. 1 , Article 7.
Available at: <https://digital-commons.usnwc.edu/nwc-review/vol31/iss1/7>

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Misunderstanding and misapplication of some enduring arms race metaphors obscure distinctions that should be made and can lead to conclusions not supported by logic.

MYOPIC VISIONS OF THE ARMS RACE: THE IMMORTALITY OF METAPHORS

by

Major Augustus R. Norton, U.S. Army

The metaphor is a tool for extending the resources of language and describing highly complex phenomena in a shorthand that captures contextual richness in economical language. In the field of national security studies, the metaphor has been particularly attractive given the highly complex character of strategic questions (and frequently the political utility of simplifying arguments for the lay audience); thus such well-known metaphors as "nuclear thresholds,"¹ "plate glass windows," and "tripwires." More venerable metaphors have survived their prenuclear origins to enter the nuclear strategy lexicon; the "arms race" is prototypical.

Arms Race Theory. If we attempt to conceive of the competition that characterized the relationship between the

United States and the U.S.S.R. as an arms race, and if we do so without benefit of the thousands of pages of analysis, polemic and diatribe that fill the literature, we would probably begin with the image of two athletes, each racing to cross the finish line first (assuming naturally that they both aspire to victory) and whether the finish line was 100 yards away from the starting blocks or at marathon distance, we would not know. We would—justifiably—expect there to be a finish line and fairly intense activity to reach it but our analysis would fall palpably short of portraying just what it is that the "arms race" metaphor means.

As is well known, the "arms race" has been loaded with further definitions as the nuclear age has progressed. Often the metaphor is merely being used as a rather pejorative comment on the nuclear balance: a usage of very little analytical use.

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An insubstantial, though firmly held, notion that somehow arms races are *bad* is not the intellectual baggage that is likely to prove useful for any analysis concerned more to understand behavior than it is to condemn villainy.²

The essence of the metaphor, in its more precise form, is well captured by Samuel Huntington in a classic essay in which he defines an "arms race" as: "A progressive, competitive peacetime increase in armaments by two states or coalition of states resulting from conflicting purposes or mutual fears."³ As Huntington holds that "every peacetime increase in arms is not necessarily the result of an arms race,"⁴ it is clear that the familiar action-reaction cycle is essential to the definition.

Combine this cycle with the claim that "[t]he armed forces inevitably overstate the military capabilities of the opponent"⁵ and one has the crux of the "arms race" metaphor. Thus, George Rathjens observed, "... the action-reaction phenomenon, with reaction often premature and/or exaggerated, has clearly been a major stimulant of the strategic arms race."⁶

Typically, the cycle has been portrayed as mostly one-way in that the United States is asserted to be the leading actor in the dyad. For example, G.B. Kistiakowsky recently asserted:

In this history of the nuclear arms race, the United States has been first with most of the technological innovations and new weapon systems, except for some systems of defense, to which the Soviet Union has traditionally dedicated a far greater portion of its military effort. . . .

The American innovations . . . were all followed a few years later by the Soviet versions.⁷

In a similar vein, Herbert York remarks:

"Our unilateral decisions have set the

rate and scale for most of the individual steps in the strategic arms race."⁸

Such remarkably ethnocentric views must be questioned, not only because of the *post hoc ergo propter hoc* implications, but because they imply that the Soviets would not have pursued development of a given system were it not for the U.S. example. If this is not the intent of such assertions, then we can only conclude that something besides the U.S. example is driving Soviet strategic programs.

Science—indeed even the science of and for war—is not the unique purview of the United States.

Vast and fairly constant investment in research and development ensures the routinization of military invention, the guarantee that the flow of "product improvements" is unlikely to cease or even to diminish very markedly. Necessarily, an arms race between Great Industrial-Scientific Powers must portray bilateral momenta of the processes and products of technological innovation.⁹

The long research and development leadtimes that are characteristic of most—if not all—innovative weapon systems are simply ignored by "arms race" theorists.¹⁰ The one-way causal relationship is presumed to be accurate. To reiterate, the technological lead of the United States is accorded great significance as an impetus to Soviet action. What is so often forgotten is that while the Soviet Union may be lagging behind the United States, lagging is not at all the same as following. Indeed, one could make a case that the pace of technological innovation could be slowed considerably if the two members of the dyad waited to be stimulated by their opposite number instead of proceeding rather independently.¹¹ G. Allison and F. Morris address this matter succinctly:

Because of such factors as the lengthy period involved in

acquisition, uncertainty about the opponent's research, and the consequent necessity for anticipating it, decisions about weapons research, development, and procurement cannot be based on evidence about the opponent's actual weapons programs. Rarely can such evidence be decisive.¹²

Validity of Theory. As Albert Wohlstetter has decisively demonstrated, many of the central tenets of the "arms race" theory are categorically false, at least for the decade of the 1960s.¹³ Rather than systematically overestimating the rate of growth of Soviet strategic forces in the 1960s, the evidence instead betrays systematic underestimates. The exaggerated threats which ostensibly drive the "arms race" were not to be found in the Defense Secretaries' formal statements for the period from 1962 to 1969.

The explanation for this gross deviation from a central "arms race" maxim is complex. No doubt misconceptions about Soviet objectives played a part; specifically the tendency to project the assured destruction doctrine to Soviet strategists proved especially misleading. There seems to be little justification, beyond wishful thinking, to claim that "assured destruction... has acquired respectability" in the U.S.S.R.¹⁴ As one authoritative monograph states:

There is no indication of a Soviet willingness to subscribe to the Western concept of "mutual assured destruction," which is said to be inherently unstable in view of the possibility of new breakthroughs in weapons technology as well as for political reasons.¹⁵

In addition, bureaucratic politics played its part in the underestimates,¹⁶ but central to any explanation may be the collective guilt complex resulting from "missile gap" overestimates. However, even the "missile gap," which is often cited as typifying the over-

estimation syndrome, is a less than sturdy buttress for the "arms race" theory. As Wohlstetter explains, the gap was actually an ICBM gap, rather than a general missile gap, for "our underestimate of the number of IR and MRBM launchers that the Russians would deploy by 1963 roughly offset our overestimate of the number of ICBM launchers they would deploy."¹⁷

The United States simply botched Soviet priorities; yet another instance when our ethnocentric slip showed. It was not the case that the United States was reacting to a "nonexistent threat" as Harvey Brooks would claim,¹⁸ but to a threat we did not understand.

Perhaps what has been most interesting about the Wohlstetter findings are the reactions of those committed to the "arms race" as a paradigm guiding research and analysis. As Thomas Kuhn says, "only those who have taken courage from observing that their own field (or school) has paradigms are likely to feel that something is sacrificed by the change to a more useful paradigm."¹⁹ It is in this respect that we find evidence for Colin Gray's assertion that in the "arms race" theory "evidence was hurriedly, though disingenuously, tailored to fit certain propositions concerning arms race dynamics which accorded with the predilections of the analysts and policy-makers."²⁰

Thus, in the face of evidence that the strategic budget has been spiraling downward, not upward, Paul Warneke states: "The 'race' analogy is not destroyed by the fact that the 'runners' may move at times at different speeds."²¹ [But, in different directions.]

Michael Nacht's response was much more sophisticated. Nacht asserted that contrary to Wohlstetter's claims, the estimates for the 1960s reveal a pattern of underestimation, "but not without a pronounced learning effect and not to the degree that Wohlstetter implies."²² The differing interpretations on the data

turn on the choice of the factor to be explained. For Nacht the appropriate measure is the cumulative total, whereas Wohlstetter stresses the increment of change. The effect of the former approach is to "swamp unpredicted new starts in the steadily increasing total of launchers known to be started or completed."²³ Using Nacht's technique, one could repeat the predictive error annually and appear to be improving in prediction performance. Such numbers games obfuscate rather than enlighten. Despite such disclaimers as Nacht's, it is hard to avoid John Holst's observation that, "[t]he record, however, does not substantiate the basic premises of this [arms race] model."²⁴

Where Theory Leads. It is reasonable to ask whether concern with the bloody details of the "arms race" theory might not be just so much nitpicking. May we not ignore the distracting evidence and simply look to the reality of the arms race? What sorts of statements are being made when it is declared that the mad momentum of the arms race must be stopped, or that the arms race is irrational or destabilizing?

If there is any logical meaning to the notion that the arms race must be stopped (or alternately that the momentum be halted), then it must be conceivable to speak of U.S.-U.S.S.R. relations in the context of a "nonrace." Clearly, a "nonrace" is conceivable, but not in a world of ideological opposites or even states with contending interests. Proceeding from the position that a disarmed world is a chimerical objective, it is not inappropriate to state that arms are only surrogates for the factors which render the adjective "chimerical" appropriate. Thus, the arms race is no more than a mere—albeit hackneyed—synonym for "normal Great Power behavior somewhat accentuated."²⁵

Much of the commentary on strategic questions considers further arms acquisitions as destabilizing measures,

i.e., as factors which make nuclear war more likely. In this vein, George Rathjens alleges that "... it seems likely that another upward spiral in the arms race would simply make a nuclear exchange more probable, more damaging or both."²⁶ This is clearly not necessarily true. Innovations are not necessarily malevolent, nor are they necessarily beneficent. A number of innovations has greatly reduced the vulnerability of U.S. and U.S.S.R. strategic forces (e.g., the SLBM, silo-hardening, solid-fuel propulsion systems, etc.) and hence the risk of war. This is well borne out by Arthur Steiner:

Today's strategic forces can survive an attack; they do not need to be launched upon receipt of an ambiguous warning. (To a surprising extent, the forces of the 1950's, at least the U.S. forces, lacked the survivability which would have ensured their ability to wait for certain evidence of a large-scale attack before beginning their deadly mission.) This greatly improved state of affairs has been brought about by that very technological arms race that ... [Rathjens fears].²⁷

Unfortunately, many authorities in their haste to reduce arms expenditures assume a certain automaticity of deterrence that simply isn't there. Ergo, McGeorge Bundy concludes that "there is no level of superiority which will make a strategic first strike between the two great states anything but an act of utter folly."²⁸ This species of reasoning, this urge to "cap the volcano," brings us to proposals which would resurrect "the delicate balance of terror" which we left behind in the 1950s. G. Kistiakowsky, following the "automaticity" line, argues that we would in all likelihood have warning of a Soviet attack; Muscovites would trek to the countryside armed with shovels, "space sensors" would alert us to the Soviet launch and the American President

52 NAVAL WAR COLLEGE REVIEW

would have the happy prospect of launching on warning.²⁹ We should be protected from such deliverance from the "arms race."

Conclusions. While it makes good sense not to sanction every "improvement" in the strategic force structure that the "hawks" might propose, it is also the beginning of wisdom in such matters not to reject every innovation because it will "fuel the arms race." Applying such strictures first requires that we have a clear understanding of the nature of the competition that describes the U.S.-U.S.S.R. strategic relationship. Clearly distinguishing between qualitative and quantitative "arms races" could well be a good beginning.

Every arms race is initially quantitative, momentum shifts in time to step-level increases in performance, i.e., qualitative versus quantitative improvements. Samuel Huntington argues that in a quantitative race one state will tend to develop a definite superiority in the long run, a superiority that will be very difficult for the trailing state to overcome (save by a qualitative improvement). On the other hand, a qualitative race is likely to take place in the context of a number of distinct races.

While a quantitative race tends to produce inequality between the two competing powers, a qualitative race tends toward equality irrespective of what may be the ratio-goals of the two rival states.

Each new weapon instead of increasing the distance between the two states reduces it. The more rapid the rate of innovation the more pronounced is the tendency toward equality.³⁰

Making the distinction, and recognizing the futility of damming the technological tide, could lead to an understanding that sometimes one must move to stay in place; that the critical matters will be understanding how opposing weapons interact, and deciding between—as opposed to making a cursory condemnation of—contending technologies. This is not to conclude that the United States "must overcome every Soviet lead despite its lack of military meaning." Such a stance is indeed illogical.³¹ However, some "leads" do matter and will have both military meaning and political significance even if we act as if it does not matter.

BIOGRAPHIC SUMMARY



A graduate of the University of Miami and a Ph.D. candidate at the University of Chicago, Major Augustus R. Norton was formerly Adjunct Assistant Professor of Political Science at the University of Illinois, Chicago Circle Campus. His book, *International Terrorism*, will be published next year by the Westview Press. He is now studying Arabic at the Defense Language Institute, Monterey, California.

NOTES

An earlier, slightly altered version of this paper was presented at the 1978 Annual Meeting of the International Studies Association.

1. See Augustus R. Norton, "NATO and Metaphors: The Nuclear Threshold," *Naval War College Review*, Fall 1977, pp. 60-75.

2. Colin S. Gray, *The Soviet-American Arms Race* (Lexington, Mass.: Lexington Books, D.C. Heath, Saxon House Study, 1976), p. 1.

3. Samuel Huntington, "Arms Races: Prerequisites and Results," in *Public Policy, 1968*, ed. by Carl J. Friedrich and Seymour E. Harris (Cambridge, Mass.: Graduate School of Public Administration, Harvard University, 1968), p. 41.

4. *Ibid.*

5. *Ibid.*, p. 54.

6. George Rathjens, "The Dynamics of the Arms Race," *Scientific American*, April 1969, reprinted in *Arms Control* (San Francisco: W.H. Freeman and Company, 1949 through 1966, 1968 through 1973), p. 181.
7. G.B. Kistiakowsky, "The Arms Race: Is Paranoia Necessary for Security?" *The New York Times Magazine*, 27 November 1977, pp. 54, 76.
8. Herbert F. York, *Race to Oblivion: A Participant's View of the Arms Race* (New York: A Clarion book published by Simon and Schuster, 1970), p. 230.
9. Gray, p. 43. See also page 39: "The principal stimulus to innovation comes, in this view, not from evidence of military developments abroad, but rather from the inquisitiveness and creative genius to be found within the respective research and development communities."
10. *Ibid.*, p. 37. Colin Gray observes: "By the time a new defense technology attracts public attention as being of some arms race significance, at which time the non-official arms control community may join battle with the research and development community and with the prospective military organization, that technology will probably have close to a decade of research and development history behind it." [Emphasis added.]
11. Graham T. Allison and Frederic A. Morris, "Armaments and Arms Control: Exploring the Determinants of Military Weapons," *Daedalus*, Summer 1975, p. 118. The following interpretation can be very compelling: "... the action-reaction hypothesis, which emphasizes tightly coupled, specific, offsetting reactions to particular weapons, seems less important, even logically, than a loosely coupled, general competition in which each nation pursues broad strategic objectives that may be readjusted periodically in light of forces that the other assembles."
12. *Ibid.*
13. Albert Wohlstetter's work on the subject "The Legends of the Arms Race," may be found in the following sources: "Part I: The Driving Engine," and "Part II: The Uncontrolled Upward Spiral," *Strategic Review*, Fall 1974 and Winter 1975 respectively. "Part I" appears in a slightly abridged version in *Foreign Policy*, Summer 1974, and "Part II" appears in *Foreign Policy*, Fall 1974. An article, "Racing Forward? or Ambling Back?" incorporating many of Wohlstetter's replies to his critics, appears in *Survey*, Summer/Autumn 1976, pp. 163-217.
14. John Newhouse, *Cold Dawn: The Story of SALT* (New York: Holt, Rinehart & Winston, 1973), pp. 58-59.
15. Foy Kohler, et al., *The Role of Nuclear Forces in Current Soviet Strategy* (Miami: Center for Advanced International Studies, University of Miami, 1974), p. 14.
16. For the bureaucratic perspective, see Allison and Morris.
17. Wohlstetter, *Survey*, p. 170.
18. Harvey Brooks, "The Military Innovation System and the Qualitative Arms Race," *Daedalus*, Summer 1975, p. 76.
19. Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 2nd ed. (Chicago: University of Chicago Press, 1962, 1970), p. 179.
20. Colin Gray, "Across the Nuclear Divide-Strategic Studies, Past and Present," *International Security*, Summer 1977, p. 41.
21. Paul C. Warnke, "Apes on a Treadmill," *Foreign Policy*, Spring 1975, p. 12.
22. Michael L. Nacht, "The Delicate Balance of Error," *Foreign Policy*, Summer 1975, p. 166.
23. Albert Wohlstetter, "How to Confuse Ourselves," *Foreign Policy*, Fall 1975, p. 180.
24. Johan Jorgen Holst, "What is Really Going On?" *Foreign Policy*, Summer 1975, p. 157.
25. Gray, *Arms Race*, p. 182.
26. Rathjens, p. 177.
27. Arthur Steiner, "The Enormity of the Arms Race," review of *Armaments and Disarmament in the Nuclear Age*, by SIPRI, in *The Bulletin of the Atomic Scientists*, October 1977, p. 64.
28. McGeorge Bundy, "To Cap the Volcano," *Foreign Affairs*, October 1969, excerpted in Morton A. Kaplan, ed., *Great Issues of International Politics*, 2nd ed. (Chicago: Aldine Publishing Company, 1974), p. 491.
29. Kistiakowsky, p. 82.
30. Huntington, p. 72.
31. Warnke, p. 15.