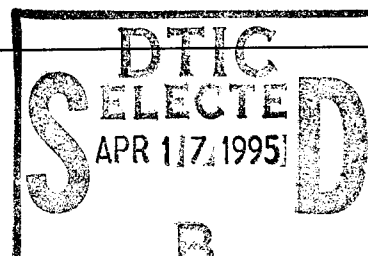


REPORT DOCUMENTATION PAGE

1. Report Security Classification: UNCLASSIFIED	
2. Security Classification Authority: N/A	
3. Declassification/Downgrading Schedule: N/A	
4. Distribution/Availability of Report: DISTRIBUTION STATEMENT A: APPROVED FOR PUBLIC RELEASE; DISTRIBUTION IS UNLIMITED.	
5. Name of Performing Organization: Joint Military Operations Department	
6. Office Symbol: 1C	7. Address: Naval War College 686 Cushing Road Newport, RI 02841-5010
8. Title: <u>REGIONAL NUCLEAR PROLIFERATION AND FUTURE CONFLICT: IMPLICATIONS FOR THE OPERATIONAL COMMANDER</u>	
9. Author: LCDR Charles C. Swicker, USN (CNC&S 11-95)	
10. Type of Report: Final	11. Date of Report: 13 FEB 95
12. Page Count: 15 plus Abstract, Endnotes and Bibliography, 21 total.	
13. Supplementary Notation: A paper submitted to the Faculty of the Naval War College in partial satisfaction of the requirements of the Joint Military Operations Department. The contents of this paper reflect my own personal views and are not necessarily endorsed by the Naval War College or the Department of the Navy.	
14. Ten key words that relate to your paper: NUCLEAR, WMD, PROLIFERATION, REGIONAL, LITTORAL, COALITION, OPERATIONAL, MISSILE, SCUD, THAAD.	
15. Abstract: The end of the Cold War is thought to signal a watershed in American military thought, allowing the practical application of operational art in conventional conflict, unshackled by the doctrine of the "strategic defensive" imposed by the nuclear stalemate of a bipolar world. This thesis is "proven" by the success of the U.S.-led coalition in Operation DESERT STORM. But what if Iraq had had a deliverable nuclear capability? The operational impact of a nuclear-capable regional predator on U.S. power projection capabilities is examined in the context of three assumptions: (1) Nuclear proliferation into the ranks of the regional powers is inevitable, given the present dynamics of power, politics and economics. (2) Given the concomitant inevitability of United States engagement in future regional conflicts throughout the world, American forces (either unilaterally or as part of a coalition) will eventually have to confront a regional nuclear power. (3) For a variety of reasons, the United States will <u>not</u> elect a nuclear response to such a challenge. Given these assumptions, the impact of a credible, localized nuclear threat on the operational commander is examined, concentrating on the extent to which such a threat might constrain his free exercise of classical operational art.	
16. Distribution / Availability of Abstract:	Unclassified Same As Rpt DTIC Users
18. Abstract Security Classification: UNCLASSIFIED	
19. Name of Responsible Individual: Chairman, Joint Military Operations Department	
20. Telephone: (401) 841-3414/4120	21. Office Symbol: 1C



NAVAL WAR COLLEGE
Newport, R.I.

REGIONAL NUCLEAR PROLIFERATION AND FUTURE CONFLICT:
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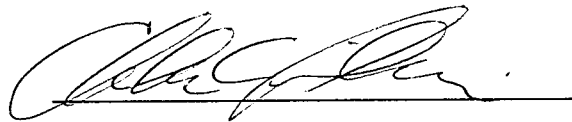
by

Charles C. Swicker

Lieutenant Commander, United States Navy

A paper submitted to the Faculty of the Naval War College in partial satisfaction of the requirements of the Department of Operations.

The contents of this paper reflect my own personal views and are not necessarily endorsed by the Naval War College or the Department of the Navy.



09 November 1995

Paper directed by
Professor Thomas B. Grassey
Editor, Naval War College Review

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DTIC QUALITY CONTROLLED

Abstract of

REGIONAL NUCLEAR PROLIFERATION AND FUTURE CONFLICT:
IMPLICATIONS FOR THE OPERATIONAL COMMANDER

The end of the Cold War is thought to signal a watershed in American military thought, allowing the practical application of operational art in conventional conflict, unshackled by the doctrine of the "strategic defensive" imposed by the nuclear stalemate of a bipolar world. This thesis is "proven" by the success of the U.S.-led coalition in Operation DESERT STORM. But what if Iraq had had a deliverable nuclear capability? The operational impact of a nuclear-capable regional predator on U.S. power projection capabilities is examined in the context of three assumptions:

(1) Nuclear proliferation into the ranks of the regional powers is inevitable, given the present dynamics of power, politics and economics.

(2) Given the concomitant inevitability of United States engagement in future regional conflicts throughout the world, American forces (either unilaterally or as part of a coalition) will eventually have to confront a regional nuclear power.

(3) For a variety of reasons, the United States will not elect a nuclear response to such a challenge.

Given these assumptions, the impact of a credible, localized nuclear threat on the operational commander is examined, concentrating on the extent to which such a threat might constrain his free exercise of classical operational art.

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"[A]n overwhelming sense of confidence or superiority is always counter-productive in either intelligence work or war. The belief in one's own superiority, whether in terms of equipment or morality, fosters blinding arrogance and in turn erodes one's interest in the opponent's weapons and plans."

- Handel (1989)¹

"The most important near-term response to the regional threat of a small nuclear arsenal is in the area of operational planning."

- Millot (1994)²

"Never fight the U.S. without nuclear weapons."

- Chief of Staff, Indian Army³

The renaissance of operational art in the U.S. military is cause for great optimism, even as America grows into a new and uncomfortable role as the dominant force for stability and order in an increasingly unstable world. However, the *raison d'etre* for that optimism, the success of Operation DESERT STORM, was a special case--and is unlikely to be repeated. The irresistible dynamics of power, politics and economics make small-scale nuclear weapons proliferation into the ranks of the regional powers inevitable. The question is when and who, not if. From now on, American operational commanders must be prepared to confront this challenging contingency.

"Although most regional proliferators may seek nuclear weapons for reasons that have nothing to do with the United States, the United States can count on eventually having a vital and immediate interest challenged by a nuclear armed regional state."⁴ The still-evolving dynamics of a post-Cold War world interact synergistically to foster both an imperative for U.S. international engagement, and the

proliferation of nuclear capability which can potentially oppose that engagement.

Despite occasional rumblings of neo-isolationist sentiment, the United States remains, in truth, the only nation capable of acting unilaterally worldwide in support of its vital interests. As a traditionally altruistic democracy and the putative leader of the Western industrialized nations, the U.S. will be inexorably drawn to temper that unilateral capability through joint engagement with a variety of international partners and coalitions. American power will thus be integrated throughout the world by means of economic endeavors, moral suasion, political consensus-building, and finally, military operations.

As U.S. leaders become increasingly sensitive to the political and popular dimensions of armed conflict in a multipolar world, American military options will become ever more dependent on the formation of ad-hoc coalitions to foster political legitimacy, and on American technical prowess to ensure quick, "clean" victory once battle is joined. The worldwide growth of information systems, the spread of technology in general beyond the first rank of industrial states, and increased public access to world news coverage since the fall of Communism all serve to fuel the dynamics which will (and do) force the United States to remain engaged and entwined with the global village, leading through coalition and consensus rather than coercion, but leading nonetheless.

While the United States may thus look toward the next century and see great opportunity tempered with danger, other nations, cast adrift after the Cold War, may see only danger.

"Nations once secure in the framework and discipline of a bipolar cold war standoff were abruptly forced, guided by the instinct of survival, not just to look at new alliances, but also to reassess self-reliance for security--and therefore to consider or reconsider obtaining some measure of nuclear weapons capability."⁵

For decades, the comfortable calculus of nuclear nonproliferation dealt with a limited number of nuclear actors--the declared nuclear weapons powers (who had achieved their capability riding the crest of wartime research and development programs or through massive, overt efforts aimed at acquiring a measure of strategic deterrence) and the international pariahs (small, technically capable states such as Israel and South Africa). These isolated, outcast nations saw themselves facing the bleak landscape of Sun Tzu's "deathground," surrounded by hostile neighbors committed to their destruction from within and without, and unable, at the end of the day, to bind themselves by treaty to either Great Power.

Within the bipolar system, regional proliferation did occur; witness Iraq's efforts throughout the 1980s to counter Israel, and the successful covert programs pursued by India and Pakistan. In general, though, the sowing of nuclear dragons' teeth was modulated both by traditional nonproliferation regimes such as the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) and by Great Power security guarantees to regional allies.

The end of the Cold War has seen those guarantees mutate and wither, and long suppressed regional tensions re-emerge. Border disputes, ethnic conflicts, and competition for natural

resources put an ever-greater value on national self-reliance and military strength. The perceived need for regional nuclear power is emerging just as the worldwide reach of information and technology make the acquisition of such power much more feasible. "The world economy today is characterized by an ever-increasing volume of trade leading to ever-greater diffusion of technology. Moreover, many potential aggressors no longer have to import the sophisticated technology they need. They are growing it at home. The growth of indigenous technology can completely change the nonproliferation equation."⁶

If regional nuclear proliferation is likely to accelerate at a time when U.S. regional engagement, either unilaterally or in the context of coalitions, is increasing, then the U.S. will eventually find itself in opposition to a regional nuclear power. If military action is to be preserved as a policy option, then military operations under the threat of nuclear attack must be planned for.

During the Cold War, much of such planning centered on deterring the threat, and deterrence was based on a countervailing threat of U.S. nuclear response. This may no longer be the case. A 1993 RAND Corporation study on the impact of regional proliferation found that "many participants [in the RAND survey of experts] argued that it is counterproductive--and for the foreseeable future probably unnecessary--to base extended deterrence on nuclear guarantees, even in the face of possible nuclear provocation by an opposing regional power."⁷ Furthermore, "Whether or not they agreed with the tendency, most participants believed that America's public, leadership, and institutions of national

security were knowingly or unknowingly in the process of delegitimizing [sic] U.S. nuclear weapons."⁸ This theme is pervasive in the recent literature.⁹ It is thus increasingly likely that:

(1) The proliferation of nuclear weapons into the arsenals of regional powers will proceed slowly but inexorably.

(2) As the sole remaining Great Power in an unstable multipolar world, the United States will be drawn into confrontation with a regional nuclear power either unilaterally or, more likely, as a member of a coalition.

(3) For reasons of both policy and practicality, the United States will not elect a nuclear response to such a challenge.

What, then, are the implications for the operational commander who must prepare and prevail if a military response is directed? To facilitate dispassionate analysis, any problem to be examined must first be bounded. This is especially so when confronting the threat of nuclear weapons.

In part to foster a mindset amenable to the tenets of deterrence, discussions of nuclear weapons employment have for years been couched in apocalyptic terms. This was apt for a Cold War strategy based on Mutual Assured Destruction, and certainly applied to that great conundrum of NATO, how to control escalation in a European war following the initial use of Western tactical nuclear weapons. When considering the new nuclear threat, however, the old rhetoric overstates the case. While the capabilities of regional proliferators will certainly grow with time if left unchecked, in the near term they are likely to be quite limited.

Nuclear capability requires weapons, means of delivery, and targeting. Information gleaned from covert weapons

programs which have been exposed, either through governmental action (South Africa) or external intervention (Iraq), confirms a concentration on basic fission-weapon designs. This makes intuitive sense, since more advanced boosted-fission or multi-stage thermonuclear weapons normally require a warhead testing regime, which of course a covert program cannot use.¹⁰ A basic fission "physics package" of a size that can be weaponized for delivery by tactical aircraft or SCUD-type ballistic missile (<2000 lbs) will tend to push warhead design parameters toward a "Hiroshima-yield" device. The estimated yield of South Africa's now dismantled aircraft bombs has been cited as "less than 18 [kilotons]."¹¹ Cheek, for example, uses a U.S. Army figure of 20 kilotons when calculating the weaponeering requirements of a regional foe.¹² "The old nuclear danger we faced was thousands of warheads in the hands of the Soviet Union. The new nuclear danger we face is perhaps as little as a handful of nuclear weapons in the hands of rogue states,"¹³ and that handful, for now, will be relatively low-yield.

Possible delivery means include tactical aircraft, ballistic missiles, and unconventional methods such as trucks, ships, and passenger aircraft.¹⁴ Strike aircraft, whether nuclear-armed or not, are vulnerable to highly capable U.S. air defenses, and require trained pilots and fixed, vulnerable runways and support facilities. Unconventional delivery has a high chance of initial success as a terrorist technique, but has limited warfighting value. Consequently, the delivery

system of choice for the regional proliferator appears to be the mobile ballistic missile, in no small part due to the lessons of DESERT STORM. "SCUDs and their launchers were very hard to find even with the exploitation of advanced surveillance means, several thousand tactical air sorties, and special forces in suspected launch areas."¹⁵ By choosing this delivery system, a regional power will have set a survivable strength against a demonstrated U.S. weakness.

Mobile missiles have specific drawbacks, however. They are range limited, with current common systems effective at 200-500km.¹⁶ Longer range systems, such as the Iraqi Al-Husayn (600km) have been fielded, but throw-weight drops substantially. Cheek cites a 300km range with a 1000kg payload for the SCUD-B, while the SCUD-based Al-Husayn carries a payload of only 190kg.¹⁷ The ability to weaponize a basic fission device into a workable warhead of this weight quickly becomes problematic, which is why the Missile Technology Control Regime (MTCR) bounds the minimum payload of a "nuclear capable" ballistic missile at 1100 pounds (500kg).¹⁸ Furthermore, "[c]ontemporary missiles in the Third World are horribly inaccurate, with typical circular error probable (CEP) ranging from 300 to 2500 meters."¹⁹ This inherent inaccuracy exacerbates the already significant difficulties regional powers have with the third requirement for rudimentary nuclear capability--targeting.

Despite the gradual but growing spread of open-source satellite imagery onto the open market, the military planners

of regional powers still lack access to near-realtime imagery intelligence (IMINT), precision MCG (Mapping, Charting and Geodesy) and state-of-the-art mensuration capabilities which the U.S. takes for granted. "Thus, Third World military commanders are generally 'blind' once conflict begins. This, in turn, has a number of practical implications for target selection. For one thing, it means that targets must be identified and located before the conflict begins."²⁰

Even in an era when target location can be conducted by an intelligence operative with a hand-held GPS and a notepad, inadequate CEP can only be overcome by improved delivery system design. Without near-realtime strategic reconnaissance, capability against mobile targets is moot. Fission warheads do not necessarily overcome either difficulty. Using 20kt weapons against U.S. forces in the field,

"In order to make a modern division 50% combat ineffective, the aggressor would have to target and attack individual company-sized elements. Assuming a three-brigade division with three maneuver battalions, a cavalry squadron, and direct support artillery, these would amount to nearly 50 potential targets. In order to make 50% of these combat ineffective, it would take a minimum of 25 weapons and perhaps many more to make up for target location errors."²¹

Thus the operational commander challenging a regional proliferator will most likely be facing a powerful weapon with distinctly circumscribed capabilities. Total inventory, system range and warhead yield will all be limited. Launchers (TELS), in the near term, will remain survivable. Delivery system accuracy will be poor, and both strategic reconnaissance and Battle Damage Assessment capabilities non-existent. Enemy

planners seldom are fools, and it is the height of folly to think them such.²² They will be fully aware of the operational limitations of their nation's most powerful weapons, despite the hyperbolic rhetoric likely to be poured forth for world consumption once conflict with America seems imminent. The operational commander must first consider enemy perceptions of his centers of gravity (COG), centers of gravity which may prove vulnerable to the enemy's limited nuclear capability.

At the operational-tactical level, the enemy can threaten a center of gravity consisting of the power projection force itself.²³ At the operational level, he can threaten the COG of coalition cohesion, as Iraq did during the Gulf war through conventional ballistic missile fires directed against Israel. At the operational-strategic level, the nuclear-vulnerable COG is American public opinion, the resolve of the body politic. While overwhelming U.S. conventional superiority directly threatens the enemy's ability to make war on U.S. forces, he can use his limited nuclear capability to threaten the U.S. will to make war on him.

Protecting the power projection force COG is operationally straightforward but logistically challenging, and brings into sharp focus the anomalies of the DESERT STORM model. "Military planners working for America's next regional adversary are likely to arrive at five key findings when they analyze the war with Iraq:

1. America's exercise of overwhelming airpower was a decisive factor in the war.

2. The U.S. air campaign depended on a few major airfields and the ground campaign on a few ports.

3. Because the United States did not fear Iraqi attacks on those air bases, operations could be optimized for the delivery of munitions to [sic] Iraq.

4. U.S. terminal defenses were not highly effective in intercepting Iraqi SCUDs.

5. U.S. air and other operations were highly unsuccessful in destroying mobile missile launchers."²⁴

If regional nuclear force capabilities are strictly limited by number, range, accuracy and reconnaissance, then enemy planners will attempt to impact the power projection force COG by striking fixed, vital "nodes" such as ports, airfields, and in-country supply transshipment centers. Saddam Hussein attempted just this. "He was able to use missiles to attack...long range targets that otherwise would have been safe rear areas, such as Riyadh and the port of Jubayl. Safe rear areas are important for supporting U.S. power projection into the theater; they serve to receive reinforcements, as staging areas for forming up units, and as logistical nodes for all types of supplies."²⁵

Throughout the course of DESERT SHIELD and DESERT STORM, the U.S. and its coalition partners used the Saudi network of highly developed and highly vulnerable port facilities and airports with impunity, offloading tons of supplies and thousands of troops for many months in near-peacetime conditions. A credible threat of a nuclear strike imposes a planning discipline in this unrealistic scenario which the very real threat of Iraqi chemical weapons never could. This

discipline will serve the operational commander well in all future confrontations, whether or not they take place under a nuclear shadow, for the only place on Earth he will ever have the luxury of a Saudi-style logistical infrastructure is Saudi Arabia. Support areas, logistics nodes, and ports must be selected and established beyond the anticipated operational range of hostile nuclear delivery systems, basic planning done with a map and a pair of dividers.

In an Area of Operations encompassing several small nations, this will put an even greater premium on coalition building. The alternative and complementary policy is to increase the proportion of power projection forces deployed afloat. If forces must be marshalled far from the front, or offshore, the principle of Mass is sacrificed for the sake of Security. The operational commander must therefore plan for an extended air operation carried out from bases beyond the reach of hostile nuclear systems. Envisioning DESERT STORM played out against a nuclear-capable Iraq, Blackwill and Carnesale projected an air phase lasting into mid-May 1991.²⁶ Constrained by a safe-basing radius, sortie rates will drop and fuel consumption will rise dramatically, emphasizing the need for increased tanking assets, long-range strike aircraft such as the projected conventionally-capable B-1 and B-2, and--once again--the survivable, mobile afloat component: carrier air, sea-launched cruise missiles, and theater missile defense (TMD) capable AEGIS ships.

Forcible entry projected from safe bases by the ground component following extended air operations will favor the use of lighter forces--Marines, airborne and air assault. Armor and mechanized units will present special challenges in the deployment-to-contact phase due to their heavy fuel and other logistics requirements, though once in the field they are the most survivable ground forces in the face of nuclear attack. Compared to DESERT STORM, the operational commander must be mentally and logistically prepared to strike from longer range with lighter forces following longer air operations of lower tempo. Naval forces and carrier air may prove to be key force multipliers in this scenario. "An overarching operational need is to engage the regional opponent with forces that can operate effectively from beyond the enemy missile range or independently of fixed bases."²⁷

All will be for naught in a coalition operation, though, if coalition unity cannot be maintained. If, through careful planning and superior U.S. capabilities, the operational commander has successfully protected his power projection forces from a direct nuclear checkmate, the "softer" center of gravity of coalition cohesion may still be vulnerable. "A window for internationally supported military action against a proliferator may close as the country gains the capability to retaliate against additional countries at greater ranges."²⁸ The RAND study uses a novel approach which illustrates a unique nuclear threat to a coalition center of gravity--the "demonstration" shot.²⁹ Such a gambit, carried out over an

empty expanse of the proliferator's own territory, demonstrates capability and sends a clear warning, while in effect retaining the moral "high ground" by demonstrating both resolve and restraint in the face of overwhelming American power. Such an act could easily convince militarily insignificant but politically vital members of a coalition that the game simply isn't worth the candle. With this possibility in mind, the operational commander must apply the same criteria to U.S. participation at an early stage of planning. What are the risks of the branches and sequels which logically follow if the U.S. is forced to act unilaterally? Can the power projection force COG be protected without a coalition? If not, are U.S. vital interests worth the possible risks (the "fourth question of Operational Art")? Must the problem therefore be readdressed at the strategic level by the NCA?

If the coalition has a strong mandate and resolute members who nonetheless find their territory within the envelope of enemy nuclear systems, the operational commander must make plans for their strategic defense in order to ensure his own operational freedom of action, for hostile nuclear strikes aimed at breaking coalition unity will be strategic in nature, countervalue attacks aimed at the will of the populace. In the near term, the only real option is early and massive deployment of U.S. theater missile defense systems with U.S. crews in threatened friendly countries. U.S. Patriot batteries were not in place and operational in Israel until

after the first anti-coalition SCUD attack had taken place. Follow-on systems such as THAAD (Theater High Altitude Air Defense) and AEGIS-based afloat systems currently in development must be deployed quickly and overtly as soon as military action in the region is contemplated.³⁰ Although conducted at a level outside the purview of the operational commander, political confidence-building efforts should be forehanded and vigorous. "If potential partners believe that the United States will take action with or without them, they might opt to take a 'free ride' by declining to become coalition members and possible targets for retaliation, while enjoying the benefits of U.S. action. The United States might be able to neutralize this effect by making a country's support for a particular U.S. military action a condition for its receipt of future U.S. protection and assistance."³¹

The final arbiters of U.S. military action are the American people, a lesson of DESERT STORM which will surely apply to any future conflict. In a post-literate age where video is both the medium and the message, the visual impact of war moulds public opinion. Even on the limited scale threatened by a regional proliferator, the visual impact of nuclear war would be literally blinding. The will of America's people to wage war on the receiving end of a nuclear battlefield has never been tested. The public aversion to nuclear conflict, nurtured by forty years of Cold War deterrence, is ingrained and instinctive. For these reasons, the operational-strategic center of gravity formed by American

public opinion remains vulnerable to exploitation. It can only be protected proactively. The mandate of the operational commander extends beyond conflict to war termination and peace operations. It is also retroactive, encompassing long range contingency planning, intelligence gathering, and the formulation of a suitable architecture to support robust indications and warning in the anticipated area of operations.

The commander responsible for U.S. military action must comprehensively evaluate his force posture and planning in light of anticipated regional nuclear threats. At the policy level, this process is still not complete. "The disconnect between the discussion of the consequences of nuclear proliferation and the analysis of essentially non-nuclear MRCs suggests that while some in DOD have recognized the nature of the threat posed by regional nuclear adversaries, the department as a whole has been unable to respond decisively."³² Decisiveness is a hallmark of the successful operational commander. The threat is currently evolving faster than the response, a situation which, if uncorrected, dooms U.S. military options to be reactive rather than proactive. Operational commanders must acknowledge this new threat and the unaccustomed challenges it presents them. They must then accept and overcome these challenges. "If the United States does not decide where it is going, all roads lead there."³³

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10. Joseph S. Nye, Jr., "Diplomatic Measures," in Blackwill and Carnesale, 81.
11. David Albright, "South Africa and the Affordable Bomb," *The Bulletin of the Atomic Scientists*, Vol. 50, No. 4 (July/August 1994), 45.
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25. Paul R.S. Gebhard, "Not by Diplomacy or Defense Alone: The Role of Regional Security Strategies in U.S. Proliferation Policies," *The Washington Quarterly*, Vol. 18, No. 1 (Winter 1995), 173.
26. Robert D. Blackwill and Albert Carnesale, "Introduction: Understanding the Problem," in Blackwill and Carnesale, 16.
27. Millot, Molander and Wilson, "'The Day After...' Study (Vol. I)," xii.
28. Flournoy in Blackwill and Carnesale, 156.
29. Millot, Molander and Wilson, "'The Day After...' Study (Vol. II)," 43.
30. According to Professor Thomas Grasse at the *Naval War College Review*, ADM William A. Owens makes just this point in his forthcoming book, *High Seas: The Naval Passage to an Uncharted World*, to be published late in the spring of 1995.
31. Flournoy in Blackwill and Carnesale, 156.
32. Millot, 55.
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