

AD-A081 195

CENTER FOR NAVAL ANALYSES ALEXANDRIA VA INST OF NAVAL--ETC F/G 5/4
SOVIET POLICY IN THE HORN OF AFRICA: THE DECISION TO INTERVENE.(U)

UNCLASSIFIED

JAN 80 R REMNEK
CNA-PP-270

NL

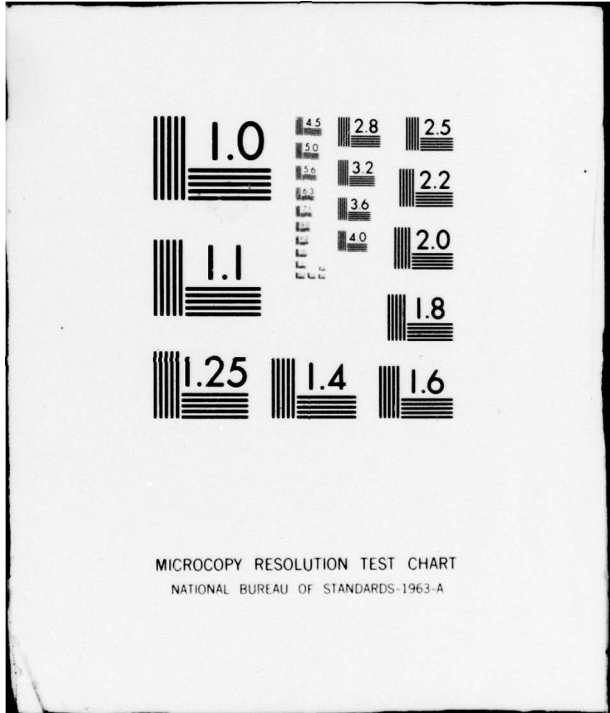
1 OF 1

AD-

A081195



END
DATE
FILMED
3-80
DDC



MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

PROFESSIONAL PAPER 270 / January 1980

LEVEL

Handwritten initials and circled numbers (2, 3)

ADA 081195

SOVIET POLICY IN THE HORN OF AFRICA: THE DECISION TO INTERVENE

Richard Remnek

DDC
RECEIVED
FEB 15 1980
REGISTRY
E

DDC FILE COPY

DISTRIBUTION STATEMENT A
Approved for public release
Distribution Unlimited



CENTER FOR NAVAL ANALYSES

2000 North Beauregard Street, Alexandria, Virginia 22311

~~80 2 15 057~~

80 2 28 044

The ideas expressed in this paper are those of the author.
The paper does not necessarily represent the views of either
the Center for Naval Analyses or the Department of Defense.

9 PROFESSIONAL PAPER 270 / Jan 1980 11

6 **SOVIET POLICY
IN THE HORN OF AFRICA:
THE DECISION TO INTERVENE.**

10 Richard Remnek

12 602

14 CNA-PP-270

403542

CNA Institute of Naval Studies
CENTER FOR NAVAL ANALYSES
2000 North Beauregard Street, Alexandria, Virginia 22311

Accession For	
NTIS GRA&I	<input checked="" type="checkbox"/>
DDC TAB	<input type="checkbox"/>
Unannounced	<input type="checkbox"/>
Justification	<i>letter in file</i>
By	
Distribution/	
Availability Codes	
Dis. Avail and/or special	
<i>A</i>	

403542 *alt*

SOVIET POLICY IN THE HORN OF AFRICA:
THE DECISION TO INTERVENE*

→ This paper attempts to evaluate recent Soviet policy on the Horn of Africa. Its temporal focus is the period immediately preceding and during the Somali-Ethiopian conflict in the Ogaden, roughly from 1976 to late 1977. It was then that the Soviet Union made critical commitments to support the Dergue, Ethiopia's radical military government. These decisions ultimately brought about a major diplomatic realignment in the Horn. This period can therefore be considered a major turning point in Soviet policy on the Horn. ←

The intent of this paper is not to provide a comprehensive historical narrative documenting the major events during this period. Nevertheless, a summary of the major events marking the stages of escalating Soviet military support for Ethiopia is useful for later reference.

*I would like to acknowledge the valuable assistance in the preparation of this paper of my colleague, Kenneth G. Weiss.

The first Soviet military aid agreement, a limited one worth roughly \$100 million for second-line equipment such as T-34 tanks, was signed in December 1976.¹ This was about the time that the outgoing Ford Administration cancelled its military grants assistance program.² In February 1977, just a few weeks after the abortive coup from which the pro-Soviet Lt. Col. Mengistu Haile Mariam emerged as the preeminent leader of the Provisional Military Administrative Committee (or Dergue), the incoming Carter Administration announced that military aid to Ethiopia had been suspended on the grounds of human rights violations. In April, the Dergue retaliated by expelling the U.S. military assistance advisory group and closing down other U.S. military installations, including the once-important Kagnew communications station. The Soviets soon stepped in to fill the void. A large military aid agreement of approximately \$500 million for more modern weapons was signed after Mengistu's trip to Moscow in May.³ In July, Somalia challenged this new Soviet-Ethiopian military connection by invading the Ogaden -- an initiative that eventually forced the Soviets to increase their support for Ethiopia. On November 13, 1977 Mogadis-

cio boldly responded by abrogating its 1974 Friendship Treaty with Moscow, terminating Soviet access to all naval support facilities, expelling Soviet advisers, and severing diplomatic relations with Cuba. In late November, the Soviets initiated a major air- and sealift to Ethiopia. And during the next month, the first of approximately 16,000 Cuban ground combat troops arrived to take part in the fighting. In February 1978, the Ethiopian counteroffensive in the Ogaden began and by March, Somali armed forces were withdrawn from the Ogaden.

The main intent of this paper is to elucidate the factors that appear to have influenced Soviet decisions to support Ethiopia during three stages of escalating involvement: 1) prior to the Somali invasion in July; 2) in the aftermath of the invasion; and 3) following the Somali expulsion of the Soviets in November. We shall also try to analyze the priorities and preferences that were reflected in the policy choices made in Moscow during these periods. Understanding these decisions is essential to any further evaluation of Soviet policy.

In few other cases of Soviet involvement in the Third World have Soviet actions had such an immediate and clear-cut impact on events. Had the Soviets and their allies (Cubans, South Yemenis, Libyans, etc.) not come to the Dergue's assistance, at best, anarchy would have prevailed in Ethiopia and, at worst, the map of the Horn might have been redrawn. That their actions did have such clear consequences affords an unusual opportunity to evaluate Soviet policy and to assess the extent to which the Soviets achieved their objectives. We also can consider the reasons for Soviet success or failure: was their policy realistic or unrealistic, effective or ineffective, or were they simply lucky or unlucky?

In international affairs, as in sports, it is not just what you win or lose, it's how you play the game. Thus, questions pertaining to the conduct of Soviet foreign policy, such as whether the Soviets acted recklessly or cautiously, timidly or boldly, obtusely or prudently, offer additional criteria by which to evaluate their behavior.

I

One concrete indication of the Soviet Union's interest in the Horn of Africa has been the continuous deployment of a naval squadron of approximately 18 ships (about one-third of which are combatants) in adjacent waters.⁴ But this observation, of course, only begs the more important question of why are the Soviets are there?

As has often been noted, the Horn of Africa is situated at the junction of the Red Sea and Indian Ocean, astride two of the world's most important shipping lanes. It has frequently been assumed that because of their presence in the area, Soviet warships pose a serious threat to the Persian Gulf oil lifeline. In a general war, one would of course assume that oil tankers would be targeted by any Soviet combatants remaining in the area, but such activity would pale in significance compared to hostilities elsewhere. In the peacetime context, Soviet interdiction of oil tankers might constitute an improbable casus belli. (Surely, there are better ways to start a general war.) Not even those in the business of insuring oil tankers, such as Lloyd's of London, think that the

Soviets would act so recklessly. They recently raised rates on tankers transiting the Strait of Hormuz not because of the Soviet naval presence, but on account of an increased possibility of terrorist attacks.

An alternative explanation for the Soviet naval presence in the Indian Ocean is the strategic threat that would be posed to Soviet territory if U.S. SSBNs were deployed.⁵ Hypothetically, stationing submarines of the pre-TRIDENT generation in the Arabian Sea offers certain advantages: military objectives ranging from deep inside the Soviet European heartland to Western China could be targeted from one location; and if only on account of its physical characteristics, the Indian Ocean affords submarines better protection against Soviet ASW than, for example, the Eastern Mediterranean. But these are offset by very long transit times between the nearest submarine base, in Guam, and the Arabian Sea.⁶ The consequent reduction in total on-station time of U.S. strategic submarine forces would have seriously weakened our overall defense capability. It is not surprising, therefore, that U.S. SSBNs have not patrolled these waters, nor were they ever likely to.

To be sure, the Soviets have often expressed fears about a possible U.S. strategic threat from the Indian Ocean. But they have not seen fit to upgrade significantly the very limited ASW capabilities of the forces they maintain in the area;⁷ nor have any large-scale Soviet ASW exercises been reported to have taken place there. The Soviets thus appear to have acted as though a U.S. strategic submarine threat from the Indian Ocean did not exist. This, however, does not rule out an interest on their part in receiving formal guarantees regarding the deployment of U.S. strategic forces there. And, as we shall discuss below, this became a real possibility precisely during the period under review.

Rather than a specific wartime mission, such as sea interdiction or strategic defense, it is its peacetime role that best explains the Soviet naval presence in the Indian Ocean. This is a region in which the Soviets have acquired important state interests. The shortest sea route open year-round between the USSR's European and Pacific ports runs through these waters. A continuous Soviet naval presence at one of the two points of entry into the Indian Ocean signals

their interest in keeping these sea lanes open. Indeed, their sensitivity on this point was transparent in their sharp negative reaction toward the so-called "Arab Lake" Red Sea security plan that surfaced in early 1977 -- a matter to which we shall later return.

The Soviet Union also has greatly expanded its ties with the states of this region of enormous human and critically important material resources. During the past decade, Soviet naval forces have been employed in numerous ways to strengthen those ties. Examples of Soviet naval diplomacy in the Indian Ocean include official port calls (for example, a prolonged diplomatic visit to Mogadiscio in April 1970, apparently to support the Somali regime against an alleged coup attempt), mine- and harbor-clearing operations in the Gulf of Suez and Bangladesh, respectively, crisis deployments to counter Western naval forces during the 1971 Indo-Pakistani War and in the aftermath of the October 1973 Middle East War,⁸ and, most recently, in support of Ethiopia at the height of the Ogaden War.⁹ The Soviet naval presence in the Indian Ocean has thus been a valuable instrument of their foreign policy in the region. But the needs of the

Soviet Indian Ocean Squadron for shore-based support also have been an important object of Soviet foreign policy.

In assessing the Indian Ocean Squadron's needs for shore-based support, it should be kept in mind that its operating area is a very long way from Vladivostok, the port from which most units deploy. It takes approximately three weeks with normal transit speeds of 10-12 knots to sail to the Gulf of Aden (a distance of 6,700 nm).¹⁰ Prior to obtaining in 1972 extensive access to the Somali port of Berbera, the mean length of Soviet combatant deployments in the Indian Ocean was roughly five months. Their warships thus wasted a high proportion of their total deployment time in transit. By lengthening those deployments, the Soviets could reduce the pool of ships needed to keep the same number of units continuously on-station.¹¹

But the longer ships are deployed, the greater are their needs for logistic support and maintenance. And with the great distances involved in the Indian Ocean, it is important to have access to local ports, where supplies can be obtained and repairs made that

cannot be done satisfactorily at sea. One indication of the value that the Soviets place on access to local ports is the degree to which they make use of it. Whereas, prior to 1972, Soviet warships had made occasional business calls to Indian Ocean ports, in that year they gained unrestricted access to Berbera; and after the arrival in the fall of that year of a barracks and repair ship, which significantly improved the Indian Ocean Squadron's ability to supply and repair its units and rest their crews on-station, the frequency of Soviet operational visits increased sharply (see table I) -- a trend that coincided with the lengthening of deployments.

But the value of local shore-based support is not limited to port access. In 1972 Somalia became the second Third World country, after Egypt, to grant the USSR access to extensive facilities ashore. Soviet access privileges included the exclusive use of a long-range communications station and the rights to stage periodic maritime reconnaissance flights from Somali airfields. Although the Soviets also built (for their own though not necessarily exclusive use) a missile-handling and storage facility and an airfield at Berbera, they apparently did not actually

SOVIET NAVAL OPERATIONAL SHIP VISITS
IN THE INDIAN OCEAN 1967-1976^a

Country	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1967- 1976
Somalia	-	-	2	7	22	20	42	61	54	75	283
S. Yemen	-	-	4	5	15	7	14	37	34	18	134
Iraq	-	-	4	1	2	8	15	17	8	12	67
Sri Lanka	-	1	2	1	-	6	2	5	6	6	29
Mauritius	-	-	1	7	1	9	1	2	2	1	24
India	-	-	1	6	2	-	3	2	4	2	20
Kenya	-	-	1	4	-	-	2	4	1	-	12
N. Yemen	-	-	1	2	-	-	-	1	2	3	9
Pakistan	-	-	5	2	-	-	-	-	1	-	8
Maldives	-	-	-	-	3	-	-	-	1	1	5
Iran	-	-	2	-	-	-	-	-	-	1	3
Tanzania	-	-	-	2	-	-	-	-	-	-	2
Ethiopia	-	-	1	-	-	-	-	-	-	-	1
Kuwait	-	-	1	-	-	-	-	-	-	-	1
Madagascar	-	-	1	-	-	-	-	-	-	-	1
Seychelles ^b	1	-	-	-	-	-	-	-	-	-	1
Sudan	-	-	-	1	-	-	-	-	-	-	1
TOTALS	1	1	26	38	45	50	79	129	113	119	601

^aExcluding visits by oceanographic research ships and space support ships.

^bU.K. colony until June 1976.

Source: Adapted from Dismukes and McConnell, eds., Soviet Naval Diplomacy, Table 2.7.

use them. What access privileges they did enjoy were nevertheless quite important. The periodic staging from Somali airfields of Il-38 May ASW and (on one occasion) Tu-95 Bear D maritime reconnaissance aircraft gave the Soviets ASW coverage and greatly expanded and improved their aerial reconnaissance of the Indian Ocean.

It should be emphasized that the acquisition of extensive facilities ashore is no easy matter. Access privileges tend to compromise the sovereignty of the host nation and subject it to negative publicity over Soviet "bases." As an illustrative example, we may note that Somalia's sovereign control over these facilities was called into question when the team of experts led by Senator Dewey F. Bartlett was barred from entering the Berbera communications station in July 1975. Even though a high-ranking Somali officer (Colonel Suleiman, the head of the Somali secret police and President Siad Barre's son-in-law) had requested the Somali guards to allow the Bartlett delegation to enter the installation, the request was evidently overruled by a Soviet officer inside the facility.¹²

It is understandable then why even those countries inclined to support the Soviet Navy have limited their support to the water's edge. And had it not been for Somalia's strong desire for arms, which only the Soviets saw fit to satisfy, it is highly unlikely that the Soviets would have obtained shore-based facilities even there.¹³

In the period under consideration, moreover, access to the Somali facilities had become more important with the initiation of the Indian Ocean naval arms limitations talks (NALT) in the spring of 1977, some six years after a proposal to curb naval activity of non-littoral states in the Indian Ocean had been raised in a speech by Brezhnev.¹⁴ The dismantling of what the Soviets called the U.S. "base" on Diego Garcia had long been a major Soviet objective in the Indian Ocean. Although the Soviets have never in form or in substance equated their facilities in Berbera with the U.S. "base" at Diego Garcia, they nevertheless could easily have realized that they would have little left with which to bargain should they lose access to Berbera.

In fact, the prospect that the Somali facilities could be replaced readily must have appeared rather dim to the Soviets on the eve of the NALT discussions. In return for their support, the Soviets could have counted on eventual access to Ethiopian ports of Assab and Massawa, but even in normal times these Red Sea ports are congested in comparison to Berbera.¹⁵ And by the spring of 1977, if not earlier, it was clear that these ports might soon be put under seige by Eritrean guerrillas.¹⁶ Nor did the prospects appear much better for Soviet naval access to Aden, which with its large bunkering facilities, repair yards, and cooler temperatures, is a far better harbor than Berbera. Soviet warships had never enjoyed the same degree of access to Aden as to Berbera. And with the improvement in 1976 of South Yemen's relations with Saudi Arabia, which has persistently sought to reduce the Soviet presence in the area, the prospects for access may have seemed even worse.¹⁷

Thus if only to preserve their bargaining power during the NALT negotiations, from which they had much

to gain, the Soviets had a major stake in maintaining access to the Somali facilities. But why then did they jeopardize their access by supporting Ethiopia? Obviously, access to naval support facilities was not the only factor driving Soviet policy on the Horn at the time. And it is to the consideration of the reasons for Soviet support for Ethiopia that we should now turn.

Two years after the overthrow of Haile Selassie, the Ethiopian revolution was entering a critical stage of instability. Nationalization, land reforms and other measures ostensibly designed to uproot the old imperial order had produced a backlash of resistance and unrest in the cities and countryside alike. Despite its nine-point plan for autonomy in Eritrea, the Dergue appeared still to be pursuing a military solution to the problem but with disastrous results. A 40,000-man peasant "militia" was easily routed by Eritrean guerrillas in the summer of 1976. Further, the victories of the Eritrean insurgents (by the spring of the following year, they controlled virtually all of Eritrea except the major towns) were severely sapping the morale of the Ethiopian Army -- the mainstay of the regime. By late 1976, the Ethio-

pian state was drifting toward disintegration and anarchy.

External forces were also speeding this process along. The Sudanese Government, whose rapidly worsening relations with Moscow culminated in its expulsion of the Soviet military mission in May 1977, was actively supporting the Eritrean guerrillas as well as other Ethiopian opposition groups, such as the liberal Ethiopian Democratic Union. Not surprisingly, tensions mounted along the Sudanese-Ethiopian border in the spring.¹⁸

During the previous year, border tensions also had arisen on the Ethiopian-Somali border, but in connection with Somalia's political maneuvering over Djibouti.¹⁹ By this time as well, the recruitment and training of Ogaden guerrillas was already well advanced, but insurgency in the Ogaden was not activated until early 1977. Thus during the last part of 1976 and the first few months of 1977 when the important initial Soviet security commitments to Ethiopia were made, the immediate danger to the military regime in Addis Ababa lay not in the Ogaden -- a point to which we shall later return.

Not only, from the Soviet perspective, was a classic "confrontation between the forces of progress and reaction" emerging on the Horn, but Soviet state interests were also being challenged on another issue, the plan to turn the Red Sea into an "Arab Lake." Though very little, if anything, concrete regarding Red Sea security emerged from meetings of Arab states in early 1977 (Sudan, Egypt, and Syria at Khartoum in February; Sudan, YAR, PDRY and Somalia at Ta'izz, YAR in March), the Soviets saw these talks as a Saudi-inspired effort to forge a pro-imperialist military bloc in the area, with the aims of obstructing both Israeli and Soviet shipping through the Red Sea, and of eventually eliminating Soviet influence in the area as well. Increased Arab support for the Eritreans and other opposition forces was thus seen as part of this broader plan to establish an unbroken chain of Arab states on the Red Sea. While Soviet influence in Somalia and to a lesser extent in South Yemen was still strong, Moscow may well have feared that its position would quickly erode with the break-up of the Ethiopian state.

Besides these perceptible negative consequences of Soviet inaction, there were positive inducements for

the Soviets to act in support of Ethiopia. To the "world socialist community," Soviet support would provide confirmation that the USSR was not only willing but increasingly able to perform its "proletarian internationalist duty" to the world revolutionary movement. To the Third World and to Africa in particular, such support would demonstrate Soviet ability to stabilize regimes and in the process to defend their territorial integrity. And with the U.S. military role in the Third World receding, unstable regimes there might look increasingly to the USSR as a "visiting fireman."

It has also been widely noted that Ethiopia offers certain intrinsic benefits to the USSR as a "client state." With the second largest population in Black Africa (ten times larger than that of Somalia), with resources sufficient to justify good prospects for long-run economic development, and with its capital the headquarters of the OAU (thanks largely to its independent historical tradition), Ethiopia is both an important African country and the key state in the African Horn. Clearly, Soviet involvement in Ethiopia offered them an opportunity to expand their influence in Africa.

But Moscow's realization of this opportunity remains problematic. An unstable Ethiopia, one highly dependent upon Soviet support, was likely to be far less influential in African affairs than a stable Ethiopia. But with increasing security and stability, Ethiopia was likely to be more independent of the USSR. If there is one thing that Moscow should have learned by this point from its involvement in the Third World, it is not to expect gratitude for past favors. All of this of course is not to deny the likelihood that a leftist, stable and independent Ethiopian government would share Moscow's views on matters of international importance. An independent Ethiopia after all need not automatically be anti-Soviet.

While there were ample positive and negative reasons for the Soviets to support Ethiopia, such support also entailed risks. Indeed, at the outset of their involvement it was not clear that the Soviets would be able to reverse the process of anarchy and disintegration in Ethiopia.

Nevertheless, they may have had reason to believe that Ethiopia would not become another quagmire like Vietnam. In the first place, they may well have been confident that they could tip the military balance in the Horn in Ethiopia's favor. Unlike Vietnam, the amount of arms available to the insurgents was likely to be limited. Though Arab petrodollars could buy light arms on the open market, they could not buy major weapons that would greatly improve the insurgents' chances of holding key cities in the periphery -- a prerequisite for international recognition.

As matters turned out, Somalia did, of course, support the insurgents in the Ogaden, as well as in other regions of Ethiopia, with most of the resources available to its large, modern, Soviet-equipped army²⁰ -- an action that probably caught the Soviets by surprise. But even the Somali "exception" tends to prove the point. No Western government would allow even third parties to transfer weapons to a state engaged in blatant aggression in contravention of the OAU's principle of the inviolability of African borders. Though Somalia was able to find alternative sources of POL, military technicians, light

arms, and even spare parts for major weapons, it could not make up its losses of major weapons.²¹ Thus, the Somali offensive seemed doomed from the start.

A second factor was the morale of the Ethiopian Army. By early 1977, there were reports of large-scale troop defections and rumors of mutiny in the Second Division based in Asmara.²² In fact, some of the defeats that the Ethiopians suffered in the summer of 1977 seem largely related to disaffection among the troops. In July the fortified city of Keren, which took the British three months to wrest from the Italians in 1941, fell to the Eritreans after a three-day battle.²³ In September, the Somalis captured the important tank base of Jigjiga after Ethiopian units had mutinied.²⁴

Whatever concern the Soviets may have had for the morale problem in the Ethiopian army, it does not seem to have affected their behavior. Well before the 25 year old U.S.-Ethiopian military relationship was terminated in April 1977, the Soviets had reportedly willfully sought to replace the United States as Ethiopia's principal armorer.²⁵ But this honor also entailed a responsibility for the defense of

Ethiopia's borders that went well beyond verbal support.²⁶ And in July 1977, when Somalia employed Soviet-made weapons to invade the Ogaden, the Soviet duty to respond was even greater. It seems reasonable to assume therefore that the Soviets would have done something more than simply stage an evacuation of foreign advisers had the Ethiopian Army wholly collapsed under the pressure of the Somali and Eritrean offensives in the summer of 1977. In point of fact, the one action that made the issue of Ethiopian morale largely irrelevant, i.e., the commitment of large numbers of Cuban troops in direct combat, was not taken until December 1977 -- well after the battle lines had stabilized and the morale of Ethiopia's armed forces had improved, thanks largely to the large-scale influx of Soviet weapons and to the patriotic response to the Somali invasion. The introduction of Cuban troops was thus not a matter of necessity.

The one major danger that the Soviets appear to have underestimated was Somalia's sharp nationalistic response to their support for Ethiopia. They knew of course that this decision would not be welcome in Mogadiscio. They may also have anticipated increased

Somali support for guerrillas inside the Ogaden and other parts of Ethiopia. But they apparently did not think that Somalia would take advantage of Ethiopia's disintegration and of the Dergue's military vulnerability (to which the conversion from U.S. to Soviet arms contributed) by mounting a large-scale invasion. In the spring, the main threats to Ethiopia's security were in Eritrea and along the Sudanese border, not in the Ogaden. In April, Moscow apparently gave Addis Ababa assurances that Mogadiscio would not attack the Ogaden.²⁷ Although this information was disclosed by Ethiopian government sources after the Somali attack, it nevertheless seems to reflect fairly accurately Soviet thinking at a time when they were promoting a pax Sovietica in the region. If the Soviets did misjudge Somali intentions, then what prompted this miscalculation?

It is possible that, having regarded Somalia's leaders as "revolutionary democrats" in good standing, the Soviets underestimated the force of Somali nationalism, as both Ethiopian and Somali sources allege.²⁸ But it is perhaps more likely that the Soviets overestimated their own leverage over the Somalis. Soviet confidence derived not simply from So-

mali reliance upon Soviet arms, oil, technicians and aid.²⁹ Rather, Moscow may have felt that Moqadiscio had little choice but to acquiesce to the Soviet decision to support Ethiopia. The Soviets, as we have already noted, probably reasoned correctly that no Western state would underwrite militarily a Somali gamble to achieve by force of arms their ambitions for a "greater Somalia." Moreover, to avert a major Somali invasion with the weapons on hand, the Soviets might even have intimated to Moqadiscio that they would do what was necessary to help Ethiopia repel such an attack.³⁰

While we do not know that the Soviets threatened to apply the stick to Somalia to avoid a war, we do know that they were offering a carrot to promote what would have become a pax Sovietica on the Horn. In what appears to have been a counter initiative to Saudi/Sudanese efforts to forge an Arab bloc of Red Sea states, the Soviets, following close on the heels of the Cubans, proposed in April that Ethiopia and Somalia join South Yemen and independent Djibouti in a federation of Marxist states, in which Eritrea and the Ogaden would receive substantial autonomy. Regardless of whether the Soviets thought that the So-

malis would readily accept the plan, they seem nevertheless to have hoped that Mogadiscio would realize that its ambitions could be accommodated best through Moscow's mediation.³¹ The Soviets might have been prepared to offer Somalia anything short of hoisting a Somali flag over the Ogaden (e.g., unhindered rights of passage for Somali herdsmen, restrictions upon the Ethiopian military presence in the region, etc.). However, the Soviets appear to have consistently abided by the principle of the inviolability of sovereign borders, even during the critical period after the Somali assault when the battlefield situation was in doubt.

As matters turned out, of course, the Somalis rejected the Soviet/Cuban federation scheme and opted for a military solution to Somalia's "national problem." This gamble probably was based upon the beliefs that there would be no better time than the present to employ force (certainly not after Ethiopia's transition to Soviet weapons systems was completed) and that Ethiopia was "too far gone" for the Soviets to save anyway.³²

The available evidence then suggests that the Soviets miscalculated in expecting the Somalis to exercise greater prudence. As a Soviet commentary explains:

The Soviet Union, for its part, did everything possible to avert an armed conflict between Ethiopia and Somalia. However, when the leaders of the latter country despite common sense and the efforts of the true friends of the Somali people began in the summer of 1977 military operations against Ethiopia and Somali troops invaded its territory, the Soviet Union, as always in such situations, came out on the side of the victim of aggression: at the request of the Ethiopian government the Soviet Union rendered Ethiopia material aid to repulse the attack. Our country did so proceeding from the principled purposes of its foreign policy, despite the fact that because of this there could have (and did in fact) ensue unfriendly acts by the Somali leadership against the Soviet Union.³³

The "basic principles" of Soviet foreign policy aside, after July 1977 their options were constrained. They had little choice but to support Ethiopia, particularly against an act of aggression committed with Soviet-made weapons. The Somali attack also represented an open challenge to Soviet policy on the Horn, which, if unanswered, would tarnish the USSR's image as a bona fide superpower.

However, the Soviets came to Ethiopia's aid slowly, in a manner indicative of their increasing difficulty in straddling both camels on the Horn. For several weeks following the Somali assault, Soviet weapons deliveries to Ethiopia were reportedly slow and limited.³⁴ At the same time, though Soviet deliveries of major weapons systems to Somalia had ceased, shipments of light arms and spare parts reportedly continued, though on a reduced scale and with delays.³⁵ There were other indications of Soviet interest in preserving the Somali connection, the most important aspect of which -- after the Somali regime had lost much of its "revolutionary democratic" allure,³⁶ -- had become the naval access privileges. Even after Soviet weapons deliveries to Somalia had finally stopped, probably by mid-October at the latest, Moscow evidently sought to preserve some semblance of its military assistance program in Mogadiscio. Though Soviet military advisers who finished their tours of duty were not replaced and those who remained were in effect quarantined in compounds for security reasons by the Somali authorities, there were still surprisingly large numbers left when they were ordered to leave in November. (According to of-

official Somali sources, 1,678 military advisers and their families were evacuated at that time.)³⁷

In addition, Moscow signed two economic aid protocols with Mogadiscio after the Somali attack,³⁸ undoubtedly to remind Somalia not only of its pressing needs for economic development, but also of the enduring value of Soviet assistance for this purpose. Further, though the Soviets made known their sympathies for Ethiopia by emphasizing respect for the principle of territorial integrity as the basis for a negotiated settlement of the conflict,³⁹ they avoided antagonizing Somalia unnecessarily by not directly accusing it of aggression against Ethiopia until after Mogadiscio's unilateral abrogation of the friendship treaty and termination of Soviet naval facilities in November. (In the interim, "reactionary" Arab and "imperialist" states were accused of setting Somalia against Ethiopia and of seeking to undermine both the revolutionary gains of the Somali regime and Soviet-Somali relations.)⁴⁰

But while the Soviets clearly sought to preserve their ties to Somalia, pressures mounted for them to step up their support for Ethiopia. After weeks of intensive diplomatic efforts, a negotiated, peaceful

resolution of the conflict was nowhere in sight. The Soviets and Somalis remained so far apart that when Siad Barre finally made his long-delayed visit to Moscow in late August, Brezhnev did not even grant him an audience.⁴¹ Perhaps in recognition of the bleak peace prospects in the near term, Moscow reportedly agreed to commit an additional \$385 million of modern weapons to Ethiopia at this time.⁴² The level of Soviet weapons deliveries to Ethiopia increased soon thereafter.⁴³ Coming at a time when Ethiopia was rather desperately seeking to renew its military ties to the U.S.,⁴⁴ this increased Soviet commitment may have removed some Ethiopian anxieties regarding Moscow's fence-sitting. But Addis Ababa was still upset with the continuation of Soviet arms deliveries to Somalia. In fact, Mengistu angrily remarked during a September 18th press conference: "If socialist countries are still supplying arms to Somalia, then this is not only violating one's principles, but also tantamount to complicity with the reactionary Mogadiscio regime."⁴⁵ This embarrassing public rebuke may have contributed to the Soviet decision, evidently taken soon thereafter, to terminate all arms deliveries to Somalia. By mid-

October, the Soviet Ambassador to Ethiopia announced publicly that Soviet weapons deliveries to Somalia had stopped.⁴⁶ Ethiopia's socialist benefactors also seemed responsive to Mengistu's requests for additional support during the latter's secret visit to Havana and Moscow at the end of October,⁴⁷ for the number of Cuban military advisers in Ethiopia sharply increased during the next two weeks from 150 to 400.⁴⁸

Though the Soviets were clearly "tilting" increasingly toward Ethiopia, on the eve of the Somali decision to expel them Moscow's support for Ethiopia was still not open-ended. Somali allegations to the contrary,⁴⁹ the evidence available does not indicate that Cuban combat units were directly involved in the fighting as yet. Neither the massive air- and sea-lifts of Soviet materiel nor the influx of Cuban soldiers began until after the Somali expulsion.

By holding in reserve considerable power to punish Somalia and by preserving, more in form than in substance, its remaining ties to Somalia, the Soviet Union may have hoped that this final step would not be taken. Indeed, the first official Soviet response

to the Somali decision adjudged that "chauvinist moods had prevailed over common sense in the Somali government."⁵⁰

There are grounds to share this Soviet view that the Somali decision, taken after a marathon 10-hour session of the Central Committee of Somalia's ruling Revolutionary Socialist Party,⁵¹ was ill-conceived. At best, it represented something of a desperate gamble that Western aid would be forthcoming in return for the eviction of the Soviets. The Somalis certainly seemed to be building a "case" for such support by alleging that a Soviet-Cuban-Ethiopian invasion of Somalia was imminent.⁵² But other than the possible release of some reported \$300 million that Saudi Arabia had put up as a bounty for the eviction of the Soviets,⁵³ the Somalis received little tangible reward for their deed.

Having undoubtedly forewarned Mogadiscio about the possible consequences of such anti-Soviet actions, Moscow was virtually obliged to respond in kind to Somalia's lese majeste. Hence, Moscow and Havana decided to upgrade dramatically the level of their sup-

port for Addis Ababa. The first sign of this shift was the arrival, a few days after the Somali eviction notice, of General V.I. Petrov, Deputy Commander-in-Chief of Soviet Ground Forces, to direct the war against the Somalis.⁵⁴ A far more obvious signal came toward the end of the month when the major Soviet airlifts commenced. And by the following month, Cuban troop units began arriving in Ethiopia to assume a direct role in the fighting.

Other factors in addition to Somalia's open challenge contributed to this Soviet-Cuban decision to intervene directly and massively in the Ogaden war. With Moqadiscio having played its "last ace," there was now nothing to prevent the Soviets from speeding up the timetable for the prosecution of the war. With the United States and other Western powers firmly opposed to the transmission of weapons to the Somalis from even third parties as long as Somali armed forces remained in the Ogaden, the Soviets could well have predicted that a military confrontation with the West was highly unlikely as long as no Soviet combat forces participated in the fighting and Soviet objectives remained limited to the expulsion of Somali forces from the Ogaden. In fact, direct involvement

gave the Soviets and Cubans greater control over the outcome of the war and made it easier for them to restrain the Ethiopians from invading Somalia.⁵⁵ Moreover, the Soviets may have felt that a large-scale Cuban military presence remaining in the Ogaden after the inevitable defeat of Somali armed forces would not only discourage another Somali attack, but also inhibit Ethiopian reprisals against Ogadeni tribesmen. Indeed, the 15,000 Cuban troops manning garrisons in the Ogaden afford Moscow and Havana significant potential leverage in future dealings with Mogadiscio.

Broader political considerations also may have affected Moscow's decision to intervene in the Ogaden. Just a few days prior to Mogadiscio's abrogation of the Friendship Treaty, Egyptian President Sadat made his dramatic announcement that he would visit Jerusalem -- a move that unhinged plans for reconvening multilateral talks at Geneva and suddenly removed the Soviets from playing a direct role in the Arab-Israeli peace negotiations. Moscow may have hoped that a graphic demonstration of Soviet intervention capabilities would convey the message that the USSR could still play a major role in obstructing, if not in

promoting, peace in the Middle East and would be neither ignored nor slighted.

It should also be added that Moscow's reasons for intervening on a large scale in the Ogaden war seem largely independent of conditions on the battlefield. It is true that Mogadiscio's abrogation of the Soviet Friendship Treaty coincided with the last major Somali offensive of the war. But the drive against the Ethiopian positions in the Ogaden had just about peaked by the time that the first Soviet airlifts began.⁵⁶ While the situation on the battlefield remained serious, it is doubtful that the Ethiopians needed much more than an incremental increase in Soviet/Cuban support to blunt the Somali offensive. Of course, they received much more than this. By contrast, it is worth recalling that during the period in which the Ethiopian forces may have needed Soviet assistance the most, that is, in the weeks immediately following the Somali attack, very little of it was to be had. It was only after Ethiopian defense lines had stabilized outside of Harar in late September that Soviet arms began to pour into Ethiopia.

The joint Soviet-Cuban decision to intervene in the Ogaden War also entailed problems and costs in its implementation. Staging a large-scale air- and sea-lift was quite demanding, probably more for political than for technical reasons. Most of the states that Soviet transport planes overflew either directly supported (with supplies and advisers) or were sympathetic to the Somalis during the conflict. In order to airlift materiel to Ethiopia, the Soviets found it necessary to employ a wide variety of flight routes, to abuse the Montreux Convention's provisions for overflights through Turkish air corridors,⁵⁷ to engage widely in such subterfuges as listing false final destinations (usually Aden, which served as a major transshipment point for materiel to Ethiopia)⁵⁸ and, on one occasion, to substitute military transports for the civilian aircraft for which overflight permission had been granted.⁵⁹

The Soviets also had to surmount certain technical problems connected with the sealift. With the railroad connection to Djibouti cut, Addis Ababa had to rely on the road to Assab, which ran through Afar and

Eritrean territory subject to guerrilla attack. Because of both congestion at the port of Assab and the adaptability of Aden's Khormaksar airport to amphibious transport operations, the Soviets made extensive use of tank landing ships in the sealift.⁶⁰ In large part to protect this sealift, the Soviets also increased the number of their naval units to the highest level ever maintained in the Indian Ocean.⁶¹ Moreover, they did so after they had lost their access to Berbera -- a feat that suggests that the Soviet Navy has not found extensive access to shore-based facilities necessary in the performance of even some of its more demanding peacetime missions.

Even before the first Soviet airlifts, Moscow had already committed nearly \$1 billion in military aid to Ethiopia, but at least some of this cost will eventually be repaid. However, the intervention itself entailed substantial additional costs, including those directly connected with staging the air- and sealift, as well as those related to the replacement by Soviet air defense pilots of Cuban pilots on assignment in Ethiopia.⁶²

In comparison to the intervention's economic costs, its political costs have appeared to be inconsequential. The U.S. Government, claiming that the Soviet naval buildup at the height of the war cast doubt upon their sincerity and interest in Indian Ocean naval limitations, suspended the talks after the fourth round in February 1978.⁶³ But the Soviets probably saw this simply as a convenient pretext. The negotiations had been effectively derailed anyway by their loss of Berbera.

Further, the Soviets might have anticipated that ill feelings among Arab supporters of Somalia aroused by their intervention were likely to be transient at best. In view of the fact that effective measures were not taken to obstruct the Soviet air- and sea-lift, the Arab reaction does not appear to have been very severe. Their support for Somalia was undoubtedly tempered by the knowledge that Mogadiscio was engaged in thinly-disguised aggression against a sovereign state.⁶⁴

II

If the ultimate objective of Soviet policy in the Horn was to establish a pax Sovietica, in which all states in the region would be linked in a federation that would resolve age-old hostilities, and with each country making sure progress under Soviet tutelage towards socialism, then obviously Moscow has not succeeded. What the Soviets have clearly accomplished has been to bring an appreciable degree of stability to Ethiopia and in so doing they may have cut short any remote plans to establish a conservative military bloc of Arab states in the region. With Somali armed forces (but not guerrillas) expelled from the Ogaden and insurgency in Eritrea and in other regions in a state of remission, the radical leftist military leaders of Ethiopia are far more secure today than ever before. But the Dergue's dependence upon Soviet support does not appear to have given Moscow great influence in shaping the subsequent course of the Ethiopian revolution. In fact, the availability of Soviet weapons may have emboldened Mengistu to seek military solutions to Ethiopia's political problems. With Ethiopian forces on the offensive in Eritrea, the Dergue's earlier proposals for regional autonomy

there appear to be something of a dead letter for the time being. Whether the Dergue will be any more successful than its predecessor in imposing its authority in Eritrea by sheer force of arms remains to be seen. At the present time, it appears that the Dergue's policies are sowing the seeds of future instability.

Where Soviet efforts do seem to have met with some belated success is in the organization of a ruling political party, the Ethiopian Workers' Party, scheduled to be formed in the Fall of 1979.⁶⁵ But whether this "vanguard" party will institutionalize the Ethiopian revolution, as Moscow would like, or will merely strengthen Mengistu's power still further, is uncertain. It is instructive to note that the Somali military regime also formed in 1976 what the Soviets termed at the time a vanguard party -- only to join the "forces of reaction" during the following year. It is quite possible that despite their best efforts, the Soviets may have accomplished little more to engineer revolutionary change in Ethiopia than to strengthen Mengistu's power base.

Whereas Soviet gains in Ethiopia may turn out to be less impressive than at first glance, their losses in Somalia may also not be as irretrievable as they initially seemed. In the first place, the Soviets now appear to have more or less made up for what they lost in Somalia with combined access to support facilities in Ethiopia and South Yemen. (Though, as has been noted above, the Soviets had little reason to expect such a fortuitous outcome.)

Secondly, despite the termination of the Soviet presence in Somalia, they had not lost all their influence in that country. While the former basis of their relationship (i.e., "arms for access") no longer can be reconstructed, some limited rapprochement cannot be ruled out in the future.⁶⁶ In fact, should the Somalis ever seek a negotiated settlement on the Ogaden, the Soviets and Cubans would be the logical mediators. Thus, however remote prospects for a pax Sovietica on the Horn may presently appear, they exist nonetheless.

The one major loss the Soviets suffered that may well be irretrievable is an Indian Ocean treaty. Although

the Soviet Union seems now to have regained its "bargaining chips" after the loss of Berbera, the United States may have, for various reasons (including the events in Iran), lost interest in the talks in the interim. If talks are not resumed, then Moscow will have lost an excellent opportunity to obtain some important legal guarantees satisfying a major Soviet security concern.

Soviet losses in Somalia and more significantly in the suspension of the Indian Ocean talks should be weighed against their gains in Ethiopia. The possibility cannot be ruled out that the Soviets would have acted differently had they foreseen the outcomes of their support for Ethiopia. At the outset of their involvement, the Soviets apparently thought they could have their cake and eat it too. The reasons for the Soviets to come to Ethiopia's assistance were evidently sufficiently strong for them to take a calculated risk that they would not alienate Somalia to the point of eventually forfeiting their access to naval support facilities there. To be sure this risk, which was based upon the assumption that Somalia would pursue its rational self-interests, may have appeared quite small at the time. But the point

is that they took it nonetheless. Had they not wanted to take any chances of jeopardizing their access, they would never have supported Ethiopia in the first place. Thus, although the Soviets did not get what they had hoped for on the Horn, the results of their actions, on balance, bear an imprint of the choices they made.

Furthermore, there is reason to believe that the Soviets would have acted much the same even had they predicted Somalia's response. It is worth noting that in the case of Egypt, whose naval support facilities were more important operationally, but not politically (NALT), than those of Somalia, concern for the loss of naval access did not alter the fundamental thrust of Soviet foreign policy, which was inimical to Egypt's interests. In the Horn the Soviets tried to accommodate Somali sensitivities, but they never gave in to Mogadiscio's demand that they not support Ethiopia. They may have recognized that submitting to Somali blackmail over access would establish an extremely dangerous precedent entailing greater long-term dilemmas than losing access and thereby jeopardizing the strong prospects for an Indian Ocean treaty.

From the Soviet perspective, therefore, it seems that Moscow gained more than it lost on the Horn. The Soviets also can claim that in supporting Ethiopia, they were doing the right thing. Through the course of their involvement, they did indeed pursue (more than less) a "principled policy." By performing their "proletarian internationalist" duty toward a revolutionary regime in extremis, by defending the inviolability of sovereign borders, by assuming responsibility for past decisions (e.g., to arm first Somalia and later Ethiopia), and finally, by acting boldly, but not rashly, when openly challenged, the Soviets "walked on the side of the angels" in the Horn.

FOOTNOTES

1. Washington Post, May 7, 1977, p. A1 and March 5, 1978, p. A1.
2. Washington Post, March 5, 1978, p. A10. It is worth adding that during the previous two years, the Ford Administration had increased significantly the level of U.S. weapons deliveries to Ethiopia. Consult U.S. Arms Control and Disarmament Agency. World Military Expenditures and Arms Transfers, 1967-76 (Washington, DC: GPO, 1978), p. 129.
3. Washington Post, March 5, 1978, p. A10.
4. The Soviet Indian Ocean Squadron, in fact, has historically spent most of its time in the Gulf of Aden.
5. This argument was first presented in Geoffrey Jukes, The Indian Ocean in Soviet Naval Policy, Adelphi Papers, No. 87, (May 1972).
6. This point was made in James M. McConnell "The Soviet Navy in the Indian Ocean" in Soviet Naval Developments, edited by Michael McGwire (New York: Praeger Publishers, 1973), pp. 389-406.
7. Lt. Cmdr. William F. Hickman, "Soviet Naval Policy in the Indian Ocean," U.S. Naval Institute Proceedings (August 1979), p. 44.
8. Soviet naval diplomacy in the Indian Ocean has been comprehensively discussed in Bradford Dismukes and James M. McConnell, eds., Soviet Naval Diplomacy (New York: Pergamon Press, 1979).
9. Soviet naval units directly participated in the sealift of materiel via Aden to Ethiopia and provided protection for that sealift. See The Times (London), February 12, 1978, p. 9.
10. The Gulf of Aden not only is where most of "the action is" in the Indian Ocean (or close to it), but also contains sheltered waters offering protection from swells during the monsoon seasons. Information on Soviet naval operations in the Indian Ocean may be found in Charles C. Petersen, "Trends in Soviet Naval Operations," in

Dismukes and McConnell, eds., Soviet Naval Diplomacy, Chapter 2.

11. In fact, after the Soviets gained unrestricted access to Berbera, they increased the number of units in the Squadron as well as lengthening their deployment times significantly.
12. U.S. Congress. Soviet Military Capability in Berbera, Somalia. Report of Senator Bartlett to the Committee on Armed Services (Washington, DC: GPO, 1975).
13. The Soviets have been Somalia's main source of weapons since the early 1960s. But, as a quid pro quo for naval access, they began to modernize Somalia's armed forces in 1972. The nature of the bargaining over Soviet access to Somali facilities is discussed in the author's "The Soviet-Somali Influence Relationship," a paper to be delivered at the Second World Congress of Soviet and East European Studies, Garmisch, Partenkirchen, West Germany, September 1980.
14. Pravda, June 12, 1971, p. 2.
15. After June 1977, when insurgents cut the railroad line between Addis Ababa and Djibouti, which had handled over 60% of Ethiopia's trade overseas, congestion at Assab became much worse.
16. What the Soviet Indian Ocean Squadron eventually got to use as its main support base in the Red Sea was an island in the Dahlac Archipelago -- a poor substitute indeed for Berbera. See Detroit News, July 9, 1978, p. 19.
17. To be sure, the Soviet Union later obtained important access privileges in the PDRY, apparently including staging rights for maritime reconnaissance aircraft. See San Diego Union, December 1, 1978, p. 1. But these gains were largely unrelated to events on the Horn. Certainly during the period under review, the Soviets had little reason to be confident that they could replace the Somali facilities so easily. It should be remembered that seven years after the Soviets lost their airfield privileges in Egypt, they still have not been able to fly maritime reconnaissance flights from local airfields.

18. Colin Legum and Bill Lee, Conflict in the Horn of Africa (New York and London: Africana Publishing Co., 1977).
19. In December 1975, the French Government announced plans for the independence of the French Territory of the Afars and Issas -- a decision that initiated a power struggle over the fate of a territory claimed by Somalia but, due to the railroad connection, was economically important only to Ethiopia. However, as much as Somalia wanted to annex the territory, it had to settle for a Republic of Djibouti, whose independence (in June 1977) was guaranteed by the continuation of a French military presence. Parenthetically, a Soviet article welcoming Djibouti's independence failed to mention the French military connection -- an omission that undoubtedly signified Soviet approval for the French security guarantee. See A. Nikanorov, "In the Land of the Afars and the Issas," New Times, No. 26 (June 1977), pp. 29-30.
20. Prior to the Somali invasion, the USSR was Somalia's principal armorer and exclusive supplier of POL. Though military supplies, spare parts, and presumably military-related POL were kept in short supply, this obviously did not afford the Soviets sufficient leverage to prevent the Somali attack. Even though the Somali army was large and modern by African standards, it was small enough to make the Soviet "short leash" ineffectual. See Tom J. Farer, War Clouds on the Horn of Africa; Second Revised Edition (New York: Carnegie Endowment for International Peace, 1979), p. 116.
21. Newsweek, February 20, 1978, p. 40 and The Economist, January 7, 1978, p. 50.
22. See Legum and Lee, op. cit., p. 48.
23. LeMonde, November 16, 1977, p. 3.
24. LeMonde, November 6-7, 1977, p. 6.
25. Legum and Lee, op. cit., p. 13.
26. By 1976, the Soviets had come around to endorsing explicitly Ethiopia's sovereignty in Eritrea and had withdrawn their earlier support for Eritrean guerrillas. See in particular Radio Mos-

cow in Amharic to Ethiopia, June 14, 1976; in Foreign Broadcast Information Service, Daily Report: Soviet Union (hereinafter, FBIS:SU), June 16, 1976, p. H-15. By subscribing to the 1964 OAU declaration upholding the inviolability of existing African borders, the Soviets had implicitly aligned themselves with Ethiopia on the Ogaden issue. (For a pre-1964 statement sympathetic to Somali irredentism, see the article by V. Kudriavtsev in Izvestia, March 29, 1963.) The closest that the Soviets ever came to encouraging Somali territorial ambitions was in the wording of the 1974 Soviet-Somali Friendship Treaty. Article 7 of the Treaty's Russian text calls upon the signatories to combat "colonialism in all its forms and manifestations." The Somalis translated this phrase as "colonialism whatever its color" -- a codeword for Somali irredentism. (The Russian text may be found in Izvestia, October 30, 1974, p. 2; the Somali text is summarized in October Star (Mogadiscio), October 29, 1975.) It is worth noting that the Russian phrasing is not typical, for it appeared only once before, in the 1971 treaty with Egypt, and not since. Perhaps, it was partly to avoid any embarrassment resultant from the comparison of the Russian and Somali texts that the publication of the treaty was delayed for several months.

27. Washington Post, September 27, 1977, p. A14.
28. In July, an Ethiopian radio broadcast commented:

Faced with all this revolutionary activity next door a truly revolutionary Somalia should have been filled with joy and should have joined its class allies in Ethiopia to strike at the enemies of reaction and international imperialism. To those observers who had entertained ideas about the socialist leadership in Somalia, the reaction came as a shock. But for those keen observers who had known the Somali leaders for the ethnocentric, petit bourgeois chauvinists that they are there was no surprise. (Addis Ababa Voice of Revolutionary Ethiopia in English, July 18, 1977; transcribed in Foreign Broadcast Information Service, Daily Report: Sub-Saharan Africa (hereinafter, FBIS:SSA), July 20, 1977, p. B2.)

In October, a Somali official noted:

The Russians knew at the outset that we aspired to reunite the Somali nation...When they helped build up our army, what did they think our intentions were? They knew and approved or at least they used our aspirations and manipulated us...(Baltimore Sun, October 28, 1977, p. 6).

29. Besides serving as Somalia's principal supplier of arms and POL, the Soviets had by 1976 provided some 2,500 military and civilian technicians, attached to virtually all government ministries, Soviet-aided projects and military units, and had trained most of the Somali military and civilian elite as well. Although the Somalis had received economic aid from other sources, the Soviets had extended large amounts of credit on generous terms for a variety of important projects. It seems interesting to add that by 1976 there were actually more Chinese than Soviet economic technicians in Somalia. See Central Intelligence Agency, Communist Aid to Less Developed Countries of the Free World, 1976. However, because virtually all the Chinese technicians were working on one project, the 600-mile road running parallel to the Ethiopian border from Beledwein to Burao, the Chinese presence was far less obtrusive (and odious) than the Soviet one in Somalia.
30. They undoubtedly also told Mogadiscio that the arms they were furnishing Ethiopia posed no threat to Somalia's security.
31. Legum and Lee, op. cit., p. 13.
32. The Somalis claimed, after the fact, that the United States Government had encouraged their offensive. Washington did indeed announce in late July, at the moment that the Somali offensive was underway, that it agreed "in principle" to meet Somalia's "legitimate defense requirements." About a month earlier, Dr. Kevin Cahill, Siad Barre's personal physician and American friend, was reportedly told by a State Department official that the U.S. Government was "not averse to further guerrilla pressure in the Ogaden." But as the U.S. Assistant Secretary for African Affairs, Richard Moose, aptly noted "...our assurances were not of such a nature

that a prudent man would have mounted an offensive on the basis of them.' See Newsweek, September 26, 1977, pp. 42-43.

33. V. Vorobyov, "Colonialist Policies in Africa," International Affairs, No. 9, 1978, p. 42.
34. Washington Post, August 12, 1977, p. 21.
35. New York Times, September 16, 1977, p. A3.
36. By early October, the Soviets were drawing comparisons between the Ethiopian and Somali regimes unfavorable to the latter. See Moscow Radio in French to Africa, October 1, 1977; translated in FBIS:SU, October 3, 1977, p. H2.
37. Newsweek, February 13, 1978, p. 48.
38. One agreement, which included continuation of work on the Fanole Dam project, was signed in August; and another, for a water exploration project, was signed in October. See Marches Tropicaux et Mediterraneens, August 26, 1977, p. 2294; and Mogadishu Domestic Service in Somalia, October 5, 1977; translated in FBIS:SSA, October 6, 1977, p. B3.
39. See, for example, Moscow TASS in English, October 11, 1977; transcribed in FBIS:SU, November 15, 1977, p. H1.
40. Moscow Radio Peace and Progress in English to Africa, October 28, 1977; transcribed in FBIS:SU, October 31, 1977, p. H4.
41. Moscow TASS in English, August 31, 1977; translated in FBIS:SU, September 1, 1977, p. H1.
42. See New York Times, September 25, 1977, p. 2. It was also about this time that the USSR ceased deliveries of POL to Somalia. See October (Cairo), September 11, 1977.
43. Baltimore Sun, September 23, 1977, p. 2.
44. Baltimore Sun, September 18, 1977, p. 2 and Washington Post, September 29, 1977, p. 1.
45. Washington Post, September 27, 1977, p. A14.

46. Addis Ababa Voice of Revolutionary Ethiopia in English, October 19, 1977; transcribed in FBIS:SSA, October 20, 1977, p. B4.
47. New York Times, November 27, 1977, p. E3.
48. New York Times, November 15, 1977, p. 1.
49. As early as October, the Somalis claimed that Cuban troops in large numbers were fighting in the Oqaden. See Mogadishu Domestic Service in Somali, October 21, 1977; translated in FBIS:SSA, October 25, 1977, p. B6.
50. Moscow TASS in English, November 15, 1977; transcribed in FBIS:SU, November 15, 1977, p. H1.
51. Mogadishu Domestic Service in Somali, November 13, 1977; translated in FBIS:SSA, November 14, 1977, p. B2.
52. Mogadishu Domestic Service in English, November 14, 1977; transcribed in FBIS:SSA, November 14, 1977, p. B3. It also may be recalled that in October, the Somalis had permitted the West Germans to liberate at Mogadiscio airport a Luft-hansa jet that had been hijacked by Palestinians -- a gesture undoubtedly designed to improve Somalia's image in the West.
53. Doha ONA in Arabic, November 24, 1977; translated in FBIS:SSA, November 25, 1977, p. B7.
54. Washington Star, January 17, 1978, p. 2.
55. Some members of the Derque apparently wanted to seize northern Somalia in order to exchange it for the Oqaden in future negotiations. See Africa, No. 79 (March 1978), p. 19.
56. Manchester Guardian, November 28, 1977.
57. Istanbul Milliyet, January 27, 1978; translated in Foreign Broadcast Information Service, Daily Report: Western Europe, January 30, 1978, pp. T2-T3.
58. Newsweek, January 23, 1978, p. 35; and July 17, 1978, p. 54.

59. The An-22 military transports in question were detained in Karachi when Pakistani authorities demanded to inspect their cargo, but released after the personal intervention of the Soviet ambassador. See Foreign Report, January 11, 1978, pp. 5-6.
60. Times (London), February 12, 1978, p. 9.
61. Statement of Rear Admiral S. Shapiro, Director of Naval Intelligence Before the Seapower Subcommittee of the House Armed Services Committee, p. 12.
62. New York Times, February 14, 1978, p. 1.
63. New York Times, February 22, 1978, p. 2.
64. Eritrea, however, was a different matter. Not only have Moscow's Arab friends (e.g., Syria and Iraq) taken a far stronger stand in support of the Eritreans, but the Cubans themselves were reluctant to participate directly in the suppression of local insurgents, many of whom were recent recipients of Cuban support and training. See The Economist, June 3, 1978, p. 68. It is not surprising, therefore, that the Soviets sought a negotiated political solution to the Eritrean problem far more earnestly than the Dergue. (In the brief history of the Dergue's deadly internecine conflicts, those leaders who have favored accommodation with the Eritreans have not survived very long.) Moscow has, nevertheless, provided logistic support for Ethiopian forces in their efforts to crush the Eritreans who have now been dislodged from most of their formerly-held positions.
65. Africa Confidential, August 22, 1979, pp. 6-7.
66. For indications of recent Somali interest in improving relations with the USSR, see the transcription of Siad Barre's January 1979 speech at an extraordinary congress of the Somali Revolutionary Socialist Party. (Mogadishu Domestic Service in Somali, January 20, 1979; translated in FBIS:SSA, January 23, 1979, p. B4.) It also may be noted that however slight prospects for a future Soviet-Somali rapprochement may be, they remain better with Siad Barre in than out of power. Siad Barre was after all the architect

of Soviet-Somali friendship; any successor in order to strengthen his position might remove from the closet "skeletons" that might impede an improvement in Soviet-Somali relations. As one of the few Third World leaders strong enough to have survived such turbulent events of recent years, Siad Barre is probably also capable of orchestrating a rapprochement with Moscow.

CNA Professional Papers — 1973 to Present*

- PP 103
Friedheim, Robert L., "Political Aspects of Ocean Ecology" 48 pp., Feb 1973, published in *Who Protects the Oceans*, John Lawrence Hargrove (ed.) (St. Paul: West Publ'g. Co., 1974), published by the American Society of International Law AD 757 936
- PP 104
Schick, Jack M., "A Review of James Cable, Gunboat Diplomacy Political Applications of Limited Naval Forces," 5 pp., Feb 1973, (Reviewed in the *American Political Science Review*, Vol. LXVI, Dec 1972)
- PP 105
Corn, Robert J. and Phillips, Gary R., "On Optimal Correction of Gunfire Errors," 22 pp., Mar 1973, AD 761 674
- PP 106
Stoloff, Peter H., "User's Guide for Generalized Factor Analysis Program (FACTAN)," 35 pp., Feb 1973, (Includes an addendum published Aug 1974) AD 758 824
- PP 107
Stoloff, Peter H., "Relating Factor Analytically Derived Measures to Exogenous Variables," 17 pp., Mar 1973, AD 758 820
- PP 108
McConnell, James M. and Kelly, Anne M., "Superpower Naval Diplomacy in the Indo-Pakistani Crisis," 14 pp., 5 Feb 1973, (Published, with revisions, in *Survival*, Nov/Dec 1973) AD 761 675
- PP 109
Berghofer, Fred G., "Salaries—A Framework for the Study of Trend," 8 pp., Dec 1973, (Published in *Review of Income and Wealth*, Series 18, No. 4, Dec 1972)
- PP 110
Augusta, Joseph, "A Critique of Cost Analysis," 9 pp., Jul 1973, AD 766 376
- PP 111
Herrick, Robert W., "The USSR's 'Blue Belt of Defense' Concept: A Unified Military Plan for Defense Against Seaborne Nuclear Attack by Strike Carriers and Polaris/Poseidon SSBNs," 18 pp., May 1973, AD 766 375
- PP 112
Ginsberg, Lawrence H., "ELF Atmosphere Noise Level Statistics for Project SANGUINE," 29 pp., Apr 1974, AD 786 969
- PP 113
Ginsberg, Lawrence H., "Propagation Anomalies During Project SANGUINE Experiments," 5 pp., Apr 1974, AD 786 968
- PP 114
Maloney, Arthur P., "Job Satisfaction and Job Turnover," 41 pp., Jul 1973, AD 768 410
- PP 115
Silverman, Lester P., "The Determinants of Emergency and Elective Admissions to Hospitals," 145 pp., 18 Jul 1973, AD 766 377
- PP 116
Rehm, Allan S., "An Assessment of Military Operations Research in the USSR," 19 pp., Sep 1973, (Reprinted from *Proceedings, 30th Military Operations Research Symposium (U)*, Secret Dec 1972) AD 770 116
- PP 117
McWhite, Peter B. and Ratliff, H. Donald,* "Defending a Logistics System Under Mining Attack,"** 24 pp., Aug 1976 (to be submitted for publication in *Naval Research Logistics Quarterly*), presented at 44th National Meeting, Operations Research Society of America, November 1973, AD A030 454
*University of Florida.
**Research supported in part under Office of Naval Research Contract N00014-68-0273-0017
- PP 118
Barfoot, C. Bernard, "Markov Duels," 18 pp., Apr 1973, (Reprinted from *Operations Research*, Vol. 22, No. 2, Mar-Apr 1974)
- PP 119
Stoloff, Peter and Lockman, Robert F., "Development of Navy Human Relations Questionnaire," 2 pp., May 1974, (Published in *American Psychological Association Proceedings, 81st Annual Convention*, 1973) AD 779 240
- PP 120
Smith, Michael W. and Schrimper, Ronald A.,* "Economic Analysis of the Intracity Dispersion of Criminal Activity," 30 pp., Jun 1974, (Presented at the *Econometric Society Meetings*, 30 Dec 1973) AD 780 538
*Economics, North Carolina State University.
- PP 121
Devine, Eugene J., "Procurement and Retention of Navy Physicians," 21 pp., Jun 1974, (Presented at the 49th Annual Conference, Western Economic Association, Las Vegas, Nev., 10 Jun 1974) AD 780 539
- PP 122
Kelly, Anne M., "The Soviet Naval Presence During the Iraq-Kuwaiti Border Dispute: March-April 1973," 34 pp., Jun 1974, (Published in *Soviet Naval Policy*, ed. Michael McGwire; New York: Praeger) AD 780 592
- PP 123
Petersen, Charles C., "The Soviet Port-Clearing Operation in Bangladesh, March 1972-December 1973," 35 pp., Jun 1974, (Published in Michael McGwire, et al. (eds) *Soviet Naval Policy: Objectives and Constraints*, (New York: Praeger Publishers, 1974) AD 780 540
- PP 124
Friedheim, Robert L. and Jehn, Mary E., "Anticipating Soviet Behavior at the Third U.N. Law of the Sea Conference: USSR Positions and Dilemmas," 37 pp., 10 Apr 1974, (Published in *Soviet Naval Policy*, ed. Michael McGwire; New York: Praeger) AD 783 701
- PP 125
Weinland, Robert G., "Soviet Naval Operations—Ten Years of Change," 17 pp., Aug 1974, (Published in *Soviet Naval Policy*, ed. Michael McGwire; New York: Praeger) AD 783 962
- PP 126 — Classified.
- PP 127
Dragnich, George S., "The Soviet Union's Quest for Access to Naval Facilities in Egypt Prior to the June War of 1967," 64 pp., Jul 1974, AD 786 318
- PP 128
Stoloff, Peter and Lockman, Robert F., "Evaluation of Naval Officer Performance," 11 pp., (Presented at the 82nd Annual Convention of the American Psychological Association, 1974) Aug 1974, AD 784 012
- PP 129
Holen, Arlene and Horowitz, Stanley, "Partial Unemployment Insurance Benefits and the Extent of Partial Unemployment," 4 pp., Aug 1974, (Published in the *Journal of Human Resources*, Vol. IX, No. 3, Summer 1974) AD 784 010
- PP 130
Dismukes, Bradford, "Roles and Missions of Soviet Naval General Purpose Forces in Wartime: Pro-SSBN Operation," 20 pp., Aug 1974, AD 786 320
- PP 131
Weinland, Robert G., "Analysis of Gorshkov's Navies in War and Peace," 45 pp., Aug 1974, (Published in *Soviet Naval Policy*, ed. Michael McGwire; New York: Praeger) AD 786 319
- PP 132
Kleinman, Samuel D., "Racial Differences in Hours Worked in the Market: A Preliminary Report," 77 pp., Feb 1975, (Paper read on 26 Oct 1974 at Eastern Economic Association Convention in Albany, N.Y.) AD A 005 517
- PP 133
Squires, Michael L., "A Stochastic Model of Regime Change in Latin America," 42 pp., Feb 1975, AD A 007 912
- PP 134
Root, R. M. and Cunniff, P. F.,* "A Study of the Shock Spectrum of a Two-Degree-of-Freedom Non-linear Vibratory System," 39 pp., Dec 1975, (Published in the condensed version of *The Journal of the Acoustic Society*, Vol 60, No. 5, Dec 1976, pp. 1314
*Department of Mechanical Engineering, University of Maryland.
- PP 135
Goudreau, Kenneth A.; Kuzmack, Richard A.; Wiedemann, Karen, "Analysis of Closure Alternatives for Naval Stations and Naval Air Stations," 47 pp., 3 Jun 1975 (Reprinted from "Hearing before the Subcommittee on Military Construction of the Committee on Armed Service," U.S. Senate, 93rd Congress, 1st Session, Part 2, 22 Jun 1973)
- PP 136
Stallings, William, "Cybernetics and Behavior Therapy," 13 pp., Jun 1975
- PP 137
Petersen, Charles C., "The Soviet Union and the Reopening of the Suez Canal: Mineclearing Operations in the Gulf of Suez," 30 pp., Aug 1975, AD A 015 376

*CNA Professional Papers with an AD number may be obtained from the National Technical Information Service, U.S. Department of Commerce, Springfield, Virginia 22151. Other papers are available from the author at the Center for Naval Analyses, 2000 North Beauregard Street, Alexandria, Virginia 22311.

- PP 138
Stallings, William, "BRIDGE: An Interactive Dialogue-Generation Facility," 5 pp., Aug 1975 (Reprinted from IEEE Transactions on Systems, Man, and Cybernetics, Vol. 5, No. 3, May 1975)
- PP 139
Morgen, William F., Jr., "Beyond Folklore and Fables in Forestry to Positive Economics," 14 pp., (Presented at Southern Economic Association Meetings November, 1974) Aug 1975, AD A 015 293
- PP 140
Mahoney, Robert and Druckman, Daniel, "Simulation, Experimentation, and Context," 36 pp., 1 Sep 1975, (Published in Simulation & Games, Vol. 6, No. 3, Sep 1975)
*Mathematica, Inc.
- PP 141
Mizrahi, Maurice M., "Generalized Hermite Polynomials,"* 5 pp., Feb 1976 (Reprinted from the Journal of Computational and Applied Mathematics, Vol. 1, No. 4 (1975), 273-277).
*Research supported by the National Science Foundation
- PP 142
Lockman, Robert F., Jehn, Christopher, and Shughart, William F. II, "Models for Estimating Premature Losses and Recruiting District Performance," 36 pp., Dec 1975 (Presented at the RAND Conference on Defense Manpower, Feb 1976; to be published in the conference proceedings) AD A 020 443
- PP 143
Horowitz, Stanley and Sherman, Allan (LCdr., USN), "Maintenance Personnel Effectiveness in the Navy," 33 pp., Jan 1976 (Presented at the RAND Conference on Defense Manpower, Feb 1976; to be published in the conference proceedings) AD A021 581
- PP 144
Durch, William J., "The Navy of the Republic of China - History, Problems, and Prospects," 66 pp., Aug 1976 (To be published in "A Guide to Asiatic Fleets," ed. by Barry M. Blechman; Naval Institute Press) AD A030 460
- PP 145
Kelly, Anne M., "Port Visits and the "Internationalist Mission" of the Soviet Navy," 36 pp., Apr 1976 AD A023 436
- PP 146
Palmour, Vernon E., "Alternatives for Increasing Access to Scientific Journals," 6 pp., Apr 1975 (Presented at the 1975 IEEE Conference on Scientific Journals, Cherry Hill, N.C., Apr 28-30; published in IEEE Transactions on Professional Communication, Vol. PC-18, No. 3, Sep 1975) AD A021 798
- PP 147
Kessler, J. Christian, "Legal Issues in Protecting Offshore Structures," 33 pp., Jun 1976 (Prepared under task order N00014-68-A-0091-0023 for ONR) AD A028 389
- PP 148
McConnell, James M., "Military-Political Tasks of the Soviet Navy in War and Peace," 62 pp., Dec 1975 (Published in Soviet Oceans Development Study of Senate Commerce Committee October 1976) AD A022 590
- PP 149
Squires, Michael L., "Counterforce Effectiveness: A Comparison of the Teipis "K" Measure and a Computer Simulation," 24 pp., Mar 1976 (Presented at the International Study Association Meetings, 27 Feb 1976) AD A022 591
- PP 150
Kelly, Anne M. and Petersen, Charles, "Recent Changes in Soviet Naval Policy: Prospects for Arms Limitations in the Mediterranean and Indian Ocean," 28 pp., Apr 1976, AD A 023 723
- PP 151
Horowitz, Stanley A., "The Economic Consequences of Political Philosophy," 8 pp., Apr 1976 (Reprinted from Economic Inquiry, Vol. XIV, No. 1, Mar 1976)
- PP 152
Mizrahi, Maurice M., "On Path Integral Solutions of the Schrodinger Equation, Without Limiting Procedure,"* 10 pp., Apr 1976 (Reprinted from Journal of Mathematical Physics, Vol. 17, No. 4 (Apr 1976), 566-575).
*Research supported by the National Science Foundation
- PP 153
Mizrahi, Maurice M., "WKB Expansions by Path Integrals, With Applications to the Anharmonic Oscillator,"* 137 pp., May 1976, AD A025 440
*Research supported by the National Science Foundation
- PP 154
Mizrahi, Maurice M., "On the Semi-Classical Expansion in Quantum Mechanics for Arbitrary Hamiltonians," 19 pp., May 1976 (Published in Journal of Mathematical Physics, Vol. 18, No. 4, p. 786, Apr 1977), AD A025 441
- PP 155
Squires, Michael L., "Soviet Foreign Policy and Third World Nations," 26 pp., Jun '76 (Prepared for presentation at the Midwest Political Science Association meetings, Apr 30, 1976) AD A028 388
- PP 156
Stallings, William, "Approaches to Chinese Character Recognition," 12 pp., Jun 1976 (Reprinted from Pattern Recognition (Pergamon Press), Vol. 8, pp. 87-98, 1976) AD A028 692
- PP 157
Morgen, William F., "Unemployment and the Pentagon Budget: Is There Anything in the Empty Pork Barrel?" 20 pp., Aug 1976 AD A030 455
- PP 158
Haskell, LCdr. Richard D. (USN), "Experimental Validation of Probability Predictions," 25 pp., Aug 1976 (Presented at the Military Operations Research Society Meeting, Fall 1976) AD A030 458
- PP 159
McConnell, James M., "The Gorshkov Articles, The New Gorshkov Book and Their Relation to Policy," 93 pp., Jul 1976 (Published in Soviet Naval Influence: Domestic and Foreign Dimensions, ed. by M. McGwire and J. McDonnell; New York: Praeger, 1977) AD A029 227
- PP 160
Wilson, Desmond P., Jr., "The U.S. Sixth Fleet and the Conventional Defense of Europe," 50 pp., Sep 1976 (Submitted for publication in Adelphi Papers, I.I.S.S., London) AD A030 457
- PP 161
Melich, Michael E. and Peet, Vice Adm. Ray (USN, Retired), "Fleet Commanders: Afloat or Ashore?" 9 pp., Aug 1976 (Reprinted from U.S. Naval Institute Proceedings, Jun 1976) AD A030 456
- PP 162
Friedheim, Robert L., "Parliamentary Diplomacy," 106 pp. Sep 1976 AD A033 306
- PP 163
Lockman, Robert F., "A Model for Predicting Recruit Losses," 9 pp., Sep 1976 (Presented at the 84th annual convention of the American Psychological Association, Washington, D.C., 4 Sep 1976) AD A030 459
- PP 164
Mahoney, Robert B., Jr., "An Assessment of Public and Elite Perceptions in France, The United Kingdom, and the Federal Republic of Germany," 31 pp., Feb 1977 (Presented at Conference "Perception of the U.S. - Soviet Balance and the Political Uses of Military Power" sponsored by Director, Advanced Research Projects Agency, April 1976) AD 036 599
- PP 165
Jondrow, James M., "Effects of Trade Restrictions on Imports of Steel," 67 pp., November 1976, (Delivered at ILAB Conference in Dec 1976)
- PP 166
Feldman, Paul, "Impediments to the Implementation of Desirable Changes in the Regulation of Urban Public Transportation," 12 pp., Oct 1976, AD A033 322
- PP 166 - Revised
Feldman, Paul, "Why It's Difficult to Change Regulation," Oct 1976
- PP 167
Kleinman, Samuel, "ROTC Service Commitments: a Comment," 4 pp., Nov 1976, (To be published in Public Choice, Vol. XXIV, Fall 1976) AD A033 305
- PP 168
Lockman, Robert F., "Revalidation of CNA Support Personnel Selection Measures," 36 pp., Nov 1976
- PP 169
Jacobson, Louis S., "Earnings Losses of Workers Displaced from Manufacturing Industries," 38 pp., Nov 1976, (Delivered at ILAB Conference in Dec 1976), AD A039 808
- PP 170
Brechtling, Frank P., "A Time Series Analysis of Labor Turnover," Nov 1976, (Delivered at ILAB Conference in Dec 1976)
- PP 171
Ralston, James M., "A Diffusion Model for GaP Red LED Degradation," 10 pp., Nov 1976, (Published in Journal of Applied Phys., Vol. 47, pp. 4518-4527, Oct 1976)

- PP 172
Classen, Kathleen P., "Unemployment Insurance and the Length of Unemployment," Dec 1976, (Presented at the University of Rochester Labor Workshop on 16 Nov 1976)
- PP 173
Kleinman, Samuel D., "A Note on Racial Differences in the Added-Worker/Discouraged-Worker Controversy," 2 pp., Dec 1976, (Published in the American Economist, Vol. XX, No. 1, Spring 1976)
- PP 174
Mahoney, Robert B., Jr., "A Comparison of the Brookings and International Incidents Projects," 12 pp. Feb 1977 AD 037 206
- PP 175
Levine, Daniel; Stoloff, Peter and Spruill, Nancy, "Public Drug Treatment and Addict Crime," June 1976, (Published in Journal of Legal Studies, Vol. 5, No. 2)
- PP 176
Felix, Wendi, "Correlates of Retention and Promotion for USNA Graduates," 38 pp., Mar 1977, AD A039 040
- PP 177
Lockman, Robert F. and Warner, John T., "Predicting Attrition: A Test of Alternative Approaches," 33 pp. Mar 1977. (Presented at the OSD/ONR Conference on Enlisted Attrition Xerox International Training Center, Leesburg, Virginia, 4-7 April 1977), AD A039 047
- PP 178
Kleinman, Samuel D., "An Evaluation of Navy Unrestricted Line Officer Accession Programs," 23 pp. April 1977. (To be presented at the NATO Conference on Manpower Planning and Organization Design, Stress, Italy, 20 June 1977), AD A039 048
- PP 179
Stoloff, Peter H. and Balut, Stephen J., "Vacate: A Model for Personnel Inventory Planning Under Changing Management Policy," 14 pp. April 1977, (Presented at the NATO Conference on Manpower Planning and Organization Design, Stress, Italy, 20 June 1977), AD A039 049
- PP 180
Horowitz, Stanley A. and Sherman, Allan, "The Characteristics of Naval Personnel and Personnel Performance," 16 pp. April 1977, (Presented at the NATO Conference on Manpower Planning and Organization Design, Stress, Italy, 20 June 1977), AD A039 050
- PP 181
Balut, Stephen J. and Stoloff, Peter, "An Inventory Planning Model for Navy Enlisted Personnel," 35 pp., May 1977, (Prepared for presentation at the Joint National Meeting of the Operations Research Society of America and The Institute for Management Science, 9 May 1977, San Francisco, California), AD A042 221
- PP 182
Murray, Russell, 2nd, "The Quest for the Perfect Study or My First 1138 Days at CNA," 57 pp., April 1977
- PP 183
Kessing, David, "Changes in Soviet Naval Forces," 33 pp., November, 1976, (Published as part of Chapter 3, "General Purpose Forces: Navy and Marine Corps," in Arms, Men, and Military Budgets, Francis P. Hoerber and William Schneider, Jr. (eds.), (Crane, Russak & Company, Inc.: New York), 1977), AD A040 106
- PP 184
Lockman, Robert F., "An Overview of the OSD/ONR Conference on First Term Enlisted Attrition," 22 pp., June 1977, (Presented to the 39th MORS Working Group on Manpower and Personnel Planning, Annapolis, Md., 28-30 June 1977), AD A043 618
- PP 185
Kessing, David, "New Technology and Naval Forces in the South Atlantic," 22 pp. (This paper was the basis for a presentation made at the Institute for Foreign Policy Analyses, Cambridge, Mass., 28 April 1977), AD A043 619
- PP 186
Mizrahi, Maurice M., "Phase Space Integrals, Without Limiting Procedure," 31 pp., May 1977, (Invited paper presented at the 1977 NATO Institute on Path Integrals and Their Application in Quantum Statistical, and Solid State Physics, Antwerp, Belgium, July 17-30, 1977) (Published in Journal of Mathematical Physics 19(1), p. 298, Jan 1978), AD A040 107
- PP 187
Coile, Russell C., "Nomography for Operations Research," 35 pp., April 1977, (Presented at the Joint National Meeting of the Operations Research Society of America and The Institute for Management Services, San Francisco, California, 9 May 1977), AD A043 620
- PP 188
Durch, William J., "Information Processing and Outcome Forecasting for Multilateral Negotiations: Testing One Approach," 53 pp., May 1977 (Prepared for presentation to the 18th Annual Convention of the International Studies Association, Chase-Park Plaza Hotel, St. Louis, Missouri, March 16-20, 1977), AD A042 222
- PP 189
Coile, Russell C., "Error Detection in Computerized Information Retrieval Data Bases," July, 1977, 13 pp. Presented at the Sixth Cranfield International Conference on Mechanized Information Storage and Retrieval Systems, Cranfield Institute of Technology, Cranfield, Bedford, England, 26-29 July 1977, AD A043 580
- PP 190
Mahoney, Robert B., Jr., "European Perceptions and East-West Competition," 96 pp., July 1977 (Prepared for presentation at the annual meeting of the International Studies Association, St. Louis, Mo., March, 1977), AD A043 661
- PP 191
Sawyer, Ronald, "The Independent Field Assignment: One Man's View," August 1977, 25 pp.
- PP 192
Holen, Arlene, "Effects of Unemployment Insurance Entitlement on Duration and Job Search Outcome," August 1977, 6 pp., (Reprinted from Industrial and Labor Relations Review, Vol. 30, No. 4, Jul 1977)
- PP 193
Horowitz, Stanley A., "A Model of Unemployment Insurance and the Work Test," August 1977, 7 pp. (Reprinted from Industrial and Labor Relations Review, Vol. 30, No. 40, Jul 1977)
- PP 194
Classen, Kathleen P., "The Effects of Unemployment Insurance on the Duration of Unemployment and Subsequent Earnings," August 1977, 7 pp. (Reprinted from Industrial and Labor Relations Review, Vol. 30, No. 40, Jul 1977)
- PP 195
Brechling, Frank, "Unemployment Insurance Taxes and Labor Turnover: Summary of Theoretical Findings," 12 pp. (Reprinted from Industrial and Labor Relations Review, Vol. 30, No. 40, Jul 1977)
- PP 196
Ralston, J. M. and Lorimor, O. G., "Degradation of Bulk Electroluminescent Efficiency in Zn, O-Doped GaP LED's," July 1977, 3 pp. (Reprinted from IEEE Transactions on Electron Devices, Vol. ED-24, No. 7, July 1977)
- PP 197
Wells, Anthony R., "The Centre for Naval Analyses," 14 pp., Dec 1977, AD A049 107
- PP 198
Classen, Kathleen P., "The Distributional Effects of Unemployment Insurance," 25 pp., Sept. 1977 (Presented at a Hoover Institution Conference on Income Distribution, Oct 7-8, 1977)
- PP 199
Durch, William J., "Revolution From A F.A.R. - The Cuban Armed Forces in Africa and the Middle East," Sep 1977, 16 pp., AD A046 268
- PP 200
Powers, Bruce F., "The United States Navy," 40 pp. Dec 1977. (To be published as a chapter in The U.S. War Machine by Salamander Books in England during 1978), AD A049 108
- PP 201
Durch, William J., "The Cuban Military in Africa and The Middle East: From Algeria to Angola," Sep 1977, 67 pp., AD A045 675
- PP 202
Feldman, Paul, "Why Regulation Doesn't Work," (Reprinted from Technological Change and Welfare in the Regulated Industries and Review of Social Economy, Vol. XXIX, March, 1971, No. 1.) Sep 1977, 8 pp.
- PP 203
Feldman, Paul, "Efficiency, Distribution, and the Role of Government in a Market Economy," (Reprinted from The Journal of Political Economy, Vol. 79, No. 3, May/June 1971.) Sep 1977, 19 pp., AD A045 675

- PP 204
Wells, Anthony R., "The 1967 June War: Soviet Naval Diplomacy and The Sixth Fleet - A Re-appraisal," Oct 1977, 36 pp., AD A047 236
- PP 205
Coile, Russell C., "A Bibliometric Examination of the Square Root Theory of Scientific Publication Productivity," (Presented at the annual meeting of the American Society for Information Science, Chicago, Illinois, 29 September 1977.) Oct 1977, 6 pp., AD A047 237
- PP 206
McConnell, James M., "Strategy and Missions of the Soviet Navy in the Year 2000," 48 pp., Nov 1977, (Presented at a Conference on Problems of Sea Power as we Approach the 21st Century, sponsored by the American Enterprise Institute for Public Policy Research, 6 October 1977, and subsequently published in a collection of papers by the Institute), AD A047 244
- PP 207
Goldberg, Lawrence, "Cost-Effectiveness of Potential Federal Policies Affecting Research & Development Expenditures in the Auto, Steel and Food Industries," 36 pp., Oct 1977, (Presented at Southern Economic Association Meetings beginning 2 November 1977)
- PP 208
Roberts, Stephen S., "The Decline of the Overseas Station Fleets: The United States Asiatic Fleet and the Shanghai Crisis, 1932," 18 pp., Nov 1977, (Reprinted from The American Neptune, Vol. XXXVII., No. 3, July 1977), AD A047 245
- PP 209 - Classified.
- PP 210
Kassing, David, "Protecting The Fleet," 40 pp., Dec 1977 (Prepared for the American Enterprise Institute Conference on Problems of Sea Power as We Approach the 21st Century, October 6-7, 1977), AD A049 109
- PP 211
Mizrahi, Maurice M., "On Approximating the Circular Coverage Function," 14 pp., Feb 1978
- PP 212
Mangel, Marc, "On Singular Characteristic Initial Value Problems with Unique Solutions," 20 pp., Jun 1978 (To be submitted for publication in Journal of Mathematical Analysis and Its Applications)
- PP 213
Mangel, Marc, "Fluctuations in Systems with Multiple Steady States. Application to Lanchester Equations," 12 pp., Feb 78, (Presented at the First Annual Workshop on the Information Linkage Between Applied Mathematics and Industry, Naval PG School, Feb 23-25, 1978)
- PP 214
Weinland, Robert G., "A Somewhat Different View of The Optimal Naval Posture," 37 pp., Jun 1978 (Presented at the 1976 Convention of the American Political Science Association (APSA/IUS Panel on "Changing Strategic Requirements and Military Posture"), Chicago, Ill., September 2, 1976)
- PP 215
Coile, Russell C., "Comments on: *Principles of Information Retrieval* by Manfred Kochen, 10 pp., Mar 78, (Published as a Letter to the Editor, Journal of Documentation, Vol. 31, No. 4, pages 298-301, December 1975)
- PP 216
Coile, Russell C., "Lotka's Frequency Distribution of Scientific Productivity," 18 pp., Feb 1978, (Published in the Journal of the American Society for Information Science, Vol. 28, No. 6, pp. 366-370, November 1977)
- PP 217
Coile, Russell C., "Bibliometric Studies of Scientific Productivity," 17 pp., Mar 78, (Presented at the Annual meeting of the American Society for Information Science held in San Francisco, California, October 1976.)
- PP 218 - Classified.
- PP 219
Huntzinger, R. LaVar, "Market Analysis with Rational Expectations: Theory and Estimation," 60 pp., Apr 78 (To be submitted for publication in Journal of Econometrics)
- PP 220
Maurer, Donald E., "Diagonalization by Group Matrices," 26 pp., Apr 78
- PP 221
Weinland, Robert G., "Superpower Naval Diplomacy in the October 1973 Arab-Israeli War," 76 pp., Jun 1978
- PP 222
Mizrahi, Maurice M., "Correspondence Rules and Path Integrals," 30 pp., Jun 1978 (Invited paper presented at the CNRS meeting on "Mathematical Problems in Feynman's Path Integrals," Marseille, France, May 22-26, 1978)
- PP 223
Mangel, Marc, "Stochastic Mechanics of Molecule-Molecule Reactions," 21 pp., Jun 1978 (To be submitted for publication in Journal of Mathematical Physics)
- PP 224
Mangel, Marc, "Aggregation, Bifurcation, and Extinction in Exploited Animal Populations," 48 pp., Mar 1978 (To be submitted for publication in American Naturalist)
Portions of this work were started at the Institute of Applied Mathematics and Statistics, University of British Columbia, Vancouver, B.C., Canada
- PP 225
Mangel, Marc, "Oscillations, Fluctuations, and the Hopf Bifurcation," 43 pp., Jun 1978
Portions of this work were completed at the Institute of Applied Mathematics and Statistics, University of British Columbia, Vancouver, Canada.
- PP 226
Ralston, J. M. and J. W. Mann, "Temperature and Current Dependence of Degradation in Red-Emitting GaP LEDs," 34 pp., Jun 1978
- PP 227
Mangel, Marc, "Uniform Treatment of Fluctuations at Critical Points," 50 pp., May 1978 (To be submitted for publication in Journal of Statistical Physics)
- PP 228
Mangel, Marc, "Relaxation at Critical Points: Deterministic and Stochastic Theory," 54 pp., Jun 1978 (To be submitted for publication in Journal of Mathematical Physics)
- PP 229
Mangel, Marc, "Diffusion Theory of Reaction Rates, I: Formulation and Einstein-Smoluchowski Approximation," 50 pp., Jan 1978
- PP 230
Mangel, Marc, "Diffusion Theory of Reaction Rates, II Ornstein-Uhlenbeck Approximation," 34 pp., Feb 1978
- PP 231
Wilson, Desmond P., Jr., "Naval Projection Forces: The Case for a Responsive MAF," Aug 1978
- PP 232
Jacobson, Louis, "Can Policy Changes be Made Acceptable to Labor?" Aug 1978 (To be submitted for publication in Industrial and Labor Relations Review)
- PP 233
Jacobson, Louis, "An Alternative Explanation of the Cyclical Pattern of Quits," 23 pp., Sep 1978
- PP 234
Jondrow, James and Levy, Robert A., "Does Federal Expenditure Displace State and Local Expenditure: The Case of Construction Grants," 18 pp., Oct 1978 (To be submitted for publication in Journal of Public Economics)
- PP 235
Mizrahi, Maurice M., "The Semiclassical Expansion of the Anharmonic-Oscillator Propagator," 41 pp., Oct 1978 (To appear in the Journal of Mathematical Physics)
- PP 237
Maurer, Donald, "A Matrix Criterion for Normal Integral Bases," 10 pp., Jan 1979
- PP 238
Utgoff, Kathleen Classen, "Unemployment Insurance and The Employment Rate," 20 pp., Oct 1978
- PP 239
Trost, R. P. and Warner, J. T., "The Effects of Military Occupational Training on Civilian Earnings: An Income Selectivity Approach," 38 pp., Nov 1979 (To be submitted for publication in Review of Economics and Statistics)
- PP 240
Powers, Bruce, "Goals of the Center for Naval Analyses," 13 pp., Dec 1978
- PP 241
Mangel, Marc, "Fluctuations at Chemical Instabilities," 24 pp., Dec 1978 (Published in Journal of Chemical Physics, Vol. 69, No. 8, Oct 15, 1978)

- PP 242
Simpson, William R., "The Analysis of Dynamically Interactive Systems (Air Combat by the Numbers)," 160 pp., Dec 1978
- PP 243
Simpson, William R., "A Probabilistic Formulation of Murphy Dynamics as Applied to the Analysis of Operational Research Problems, 18 pp., Dec 1978 (Submitted for publication in The Journal of Irreproducible Results)
- PP 244
Sherman, Allan and Horowitz, Stanley A., "Maintenance Costs of Complex Equipment," 20 pp., Dec 1978
- PP 245
Simpson, William R., "The Accelerometer Methods of Obtaining Aircraft Performance from Flight Test Data (Dynamic Performance Testing), 403 pp., Jun 1979
- PP 246
Brechling, Frank, "Layoffs and Unemployment Insurance," 35 pp., Feb 1979
- PP 248
Thomas, James A., Jr., "The Transport Properties of Dilute Gases in Applied Fields," 183 pp., Mar 1979
- PP 249
Glasser, Kenneth S., "A Secretary Problem with a Random Number of Choices," 23 pp., Mar 1979 (Submitted for publication in Journal of the American Statistical Association)
- PP 250
Mangel, Marc, "Modeling Fluctuations in Macroscopic Systems," 26 pp., Jun 1979
- PP 251
Trost, Robert P., "The Estimation and Interpretation of Several Selectivity Models," 37 pp., Jun 1979
- PP 252
Nunn, Walter R., "Position Finding with Prior Knowledge of Covariance Parameters," 5 pp., Jun 1979
- PP 253
Glasser, Kenneth S., "The d-Choice Secretary Problem," 32 pp., Jun 1979
- PP 254
Mangel, Marc and Quanbeck, David B., "Integration of a Bivariate Normal Over an Offset Circle," 14 pp., Jun 1979
- PP 255 - Classified
- PP 257
Thaler, R., "Discounting and Fiscal Constraints: Why Discounting is Always Right," 10 pp., Aug 1979
- PP 258
Mangel, Marc S. and Thomas, James A., Jr., "Analytical Methods in Search Theory," 86 pp., Nov 1979
- PP 259
Glass, David V.; Hsu, Ih-Ching; Nunn, Walter R. and Perin, David A., "A Class of Commutative Markov Matrices," 17 pp., Nov 1979 (To be submitted for publication in Operations Research)
- PP 260
Mangel, Marc S. and Cope, David K., "Detection Rate and Sweep Width in Visual Search," 14 pp., Nov 1979
- PP 261
Vila, Carlos L.; Zvijac, David J. and Ross, John, "Franck-Condon Theory of Chemical Dynamics. VI. Angular Distributions of Reaction Products," 14 pp., Nov 1979 (Reprinted from Journal Chem. Phys. 70(12), 15 Jun 1979)
- PP 262
Petersen, Charles C., "Third World Military Elites in Soviet Perspective," 50 pp., Nov 1979 (To be submitted for publication in International Security)
- PP 263
Robinson, Kathy I., "Using Commercial Tankers and Containerships for Navy Underway Replenishment," 25 pp., Nov 1979 (To be submitted for publication in the Naval Engineering Journal)
- PP 264
Weinland, Robert G., "The U.S. Navy in the Pacific: Past, Present, and Glimpses of the Future," 31 pp., Nov 1979
- PP 265
Weinland, Robert G., "War and Peace in the North: Some Political Implications of the Changing Military Situation in Northern Europe," 18 pp., Nov 1979
- PP 266
Utgoff, Kathy Classen, and Brechling, Frank, "Taxes and Inflation," 25 pp., Nov 1979
- PP 267
Trost, Robert P. and Vogel, Robert C., "The Response of State Government Receipts to Economic Fluctuations and the Allocation of Counter-Cyclical Revenue Sharing Grants," 12 pp., Dec 1979 (Reprinted from the Review of Economics and Statistics, Vol. LXI, No. 3, August 1979)
- PP 268
Thomason, James S., "Seaport Dependence and Inter-State Cooperation: The Case of Sub-Saharan Africa," 141 pp., Jan 1980
- PP 270
Remnek, Richard "Soviet Policy in the Horn of Africa: The Decision to Intervene," 52 pp., Jan 1980 (To be published in "Soviet Policy in the Third World: Success and Failure")
- PP 271
McConnell, James "Soviet and American Strategic Doctrines: One More Time," 43 pp., Jan 1980