AD-A104 222 CENTER FOR NAVAL ANALYSES ALEXANDRIA VA INST OF NAVAL--ETC F/G 15/7
SUPERPOWER NAVAL CRISIS MANAGEMENT IN THE MEDITERRANEAN.(U)
AUG 81 S S ROBERTS
UNCLASSIFIED CNA-PP-317 NL

1 OF 1
AD A
104222

END
DATE
FILMED
10-81
DTIC

LEVEL

PROFESSIONAL PAPER 317 / August 1981

AD A104222

SUPERPOWER NAVAL CRISIS MANAGEMENT IN THE MEDITERRANEAN

Stephen S. Roberts

DTIC
ELECTE
SEP 1 5 1981
S D
A

This document has been approved for public release and sale; its distribution is unlimited.

DTIC FILE COPY

CNA
CENTER FOR NAVAL ANALYSES

075
81 9 14 ~~061~~

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 317 Aug[redacted]981 (11) (12) 41

(14) CNA-PP-317

(6)

SUPERPOWER NAVAL CRISIS MANAGEMENT IN THE MEDITERRANEAN

(10) Stephen S. Roberts

Accession For
Letter on file
A

Institute of Naval Studies

CENTER FOR NAVAL ANALYSES

2000 North Beauregard Street, Alexandria, Virginia 22311

403540

SUPERPOWER NAVAL CRISIS MANAGEMENT IN THE MEDITERRANEAN

INTRODUCTION

The Mediterranean has for centuries been one of the world's main crisis regions. During the past century, crises arose there due to the tumultuous birth and development of nation states and the competition between the great powers for control of the area, particularly its strategic straits and its land routes to the east. Today, these problems all remain, and are further complicated by rivalries between the new nations, the strategic importance of the area's natural resources, and the fact that the region is the southern flank of the main zone of confrontation between the world's two great alliances.

A nation can respond to crises both by words and by action. If it decides to act, one of its means of action can be its navy. A navy can impose the ultimate sanction -- violence -- on a crisis opponent, and it therefore commands attention whenever it is present. In addition, a navy is highly mobile and versatile, and is therefore capable of taking many types of action short of violence, either to transmit signals or to accomplish crisis objectives directly. Since the Mediterranean is a maritime region, it is not surprising that navies have played a prominent role in crises there. All navies in the Mediterranean have the ability to act in crises, and a number have done so. In recent years, how-

ever, naval crisis management in the Mediterranean has been practiced primarily by the two superpowers -- the U.S. and the USSR. The purpose of this paper is to analyze the role of the two superpower navies in recent Mediterranean crises and to estimate the ability of the U.S. Navy to continue to fulfill its crisis role there in the future.

This paper will first describe the postures adopted by the two navies in non-crisis periods to enable them to respond to crises as well as carry out their other missions. It will then examine the ways in which naval crisis management is currently practiced in the Mediterranean by describing in some detail the specific actions taken by the two navies in five of the most important recent Mediterranean crises, and by estimating how these actions were related to the political objectives of national policymakers. It will conclude with some speculations concerning the ability of the U.S. Navy to continue to support political objectives in future Mediterranean crises.

ROUTINE NAVAL POSTURES IN THE MEDITERRANEAN

United States Posture

The posture from which the U.S. responds to Mediterranean crises is well known. Since the late 1940s, the U.S. has maintained a continuous naval presence in the Mediterranean, both to meet NATO commitments and to respond to crises. The most noteworthy thing

about this presence is that the number and types of ships involved have been very constant. Figures for 1971 to 1979 are given in table 1 (it should be noted that the 1971 figures are also valid for the period 1967-1970). Two carriers and one Amphibious Ready Group were present throughout the period. (The intermittent presence of an anti-submarine carrier ended around 1972.) The number of cruisers, destroyers, and frigates declined from 20 in the late 1960s to 14 in 1978, but may have been partly offset by an increase in the number of submarines (there were 5 in June 1979). Events in 1979-80 have, of course, altered this pattern: in June 1979 two Mediterranean destroyers were in the Indian Ocean reinforcing the two destroyers normally assigned to the Middle East force, and in mid-1980 one Mediterranean carrier was also in the Indian Ocean. It is not yet clear what impact long-term Indian Ocean requirements will have on the Sixth Fleet. However, it is safe to say that the U.S. Navy will remain in the Mediterranean, even if forces have to be reduced below the level of June 1978.[1]

Soviet Posture

The posture from which the Soviets respond to crises in the Mediterranean differs significantly from that of the U.S. The Soviets have maintained a continuous presence there since 1964, but the number of ships present at any one time has varied widely, as shown in figure 1. The Soviets seem to believe in maintaining on-

TABLE 1

SIXTH FLEET SURFACE COMBATANTS AND AUXILIARIES, 1971-1979[a]

	Jan. 1971	Jan. 1972	Jan. 1973	Jan. 1974	Jan. 1975	Jan. 1976	June 1978	June 1979
Aircraft carriers	2	2	2	2	2	2	2	2
Cruisers, destroyers, and frigates[b]	20	19	19	18	17	16	14	12
Patrol boats (PG)	2	2	4	4	4	4	--	--
Amphibious warfare ships (including helicopter carriers[c]	4	4	5	5	7	5	(5)	5
Auxiliaries	6	8	7	11	10	9	10	9
Total surface	34	35	37	38	39	36	31	28
Submarines							4	5

[a]1971-1976 data provided by U.S. Navy, 1978-1979 data from Annual Reports of the Secretary of Defense for FY 1980 and 1981.

[b]1971-1978 figures exclude 2 destroyers in the Middle East Force, 1979 figures exclude 4 there.

[c]One amphibious ready group normally contains 4 to 5 amphibious warfare ships.

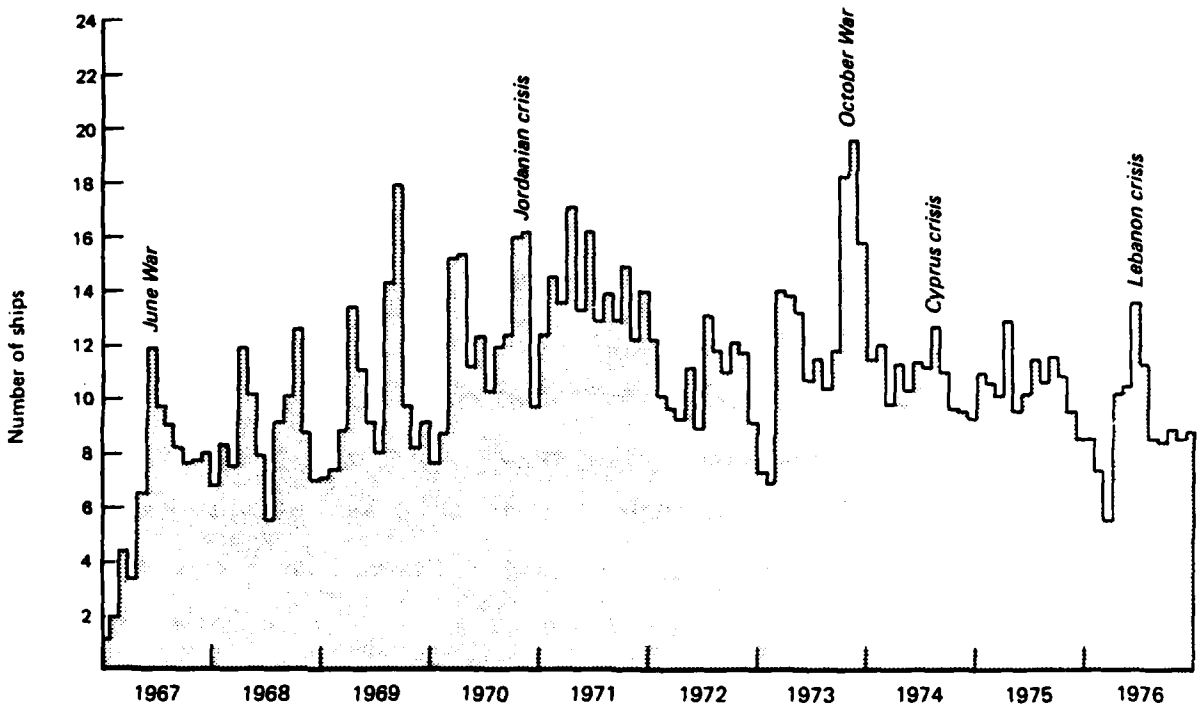

FIG. 1: MAJOR SOVIET COMBATANT MEAN DAILY FORCE LEVELS IN THE MEDITERRANEAN (BY MONTH), 1967-76

Source: Soviet Naval Diplomacy, p. 48

ly minimal forces in the area and augmenting them when necessary. Augmentations have occurred for routine training, for exercises, and for crises. This has been called a "flexible" deployment policy in contrast with the U.S. "steady state" deployment policy. It should be noted that the Soviet submarine presence has been much more constant than their surface ship presence, probably because it is supported from the Northern Fleet instead of the Black Sea Fleet.[2]

The types of forces deployed by the Soviets to the Mediterranean also differ from those of the U.S. They lack both aircraft carriers and the significant assault capability represented by the U.S. Amphibious Ready Group. In contrast, they emphasize submarines and groups of surface combatants. The typical composition of the Soviet Mediterranean Squadron in 1978 was 8 to 10 torpedo attack submarines, 2 to 3 cruise-missile submarines, 2 to 4 cruisers and 9 to 12 destroyers and frigates.[3] Typically, the Soviet Mediterranean Squadron has also had a large number of auxiliaries, and 1 to 3 amphibious ships.

RECENT NAVAL CRISIS RESPONSES IN THE MEDITERRANEAN

Since 1967, the U.S. and Soviet naval forces that we have just described have been called upon to make significant responses to five Mediterranean crises: the June 1967 Middle East War, the Jordan crisis of September 1970, the October 1973 War, the Cyprus

crisis of 1974, and the Lebanon crisis of 1976. We will now look in detail at the actions taken by the two superpower navies in each of these crises.

June 1967 War

The first U.S. naval response to the 1967 Middle East crisis was to send the carrier Saratoga to the Sea of Crete on or before 23 May. It appears that the main U.S. concern was the free passage of international waterways, which was jeopardized by the blockade of the Straits of Tiran proclaimed by Egyptian President Nasser on 22 May. The carrier America, which had been in the Western Mediterranean, joined Saratoga on 29 May. On 31 May the two carriers separated, America moving southeast of Crete while Saratoga remained north of Crete. This separation weakened the carriers' defensive posture, and indicates that the U.S. was not overly concerned about Soviet naval activities at this time.

When the war broke out, this posture changed. On 6 June the carriers were reported moving southeast at 20 knots in an effort to evade Soviet units while remaining neutral with reference to the war. They ended up together 100 miles southeast of Crete. However, they then moved west to a position south of western Crete, indicating that the earlier position may not have been neutral enough. (The Egyptian claims that U.S. carrier aircraft had helped the Israelis may have prompted this move.) America raced east

on 8 June to protect USS Liberty, which had been attacked by Israeli forces, but then returned to her station in the west.

The U.S. also tried not to associate its other forces in the Mediterranean with the crisis. The amphibious force adhered conspicuously to its routine schedule, including port calls at Naples and Malta, and the carrier Intrepid, which was to transit the Suez Canal en route Vietnam in late May, was kept separate from Sixth Fleet units.

The nature of the crisis, and of the U.S. naval response to it, changed on 10 June. Fears that the Israelis might capture Damascus appear to have caused the Soviets to threaten to insert their own airborne forces to protect the Syrian capital. The U.S. responded in two ways: it sent the two carriers steaming toward Syria, presumably to indicate disapproval of a Soviet intervention, and it put pressure on Israel to stop its advance on Damascus. The Sixth Fleet amphibious force was also held at sea. When a cease-fire was negotiated, the carriers turned west again. They were released from crisis operations on 17 June.[4]

The June War was the first Third World crisis to which the Soviet Navy responded since World War II (with the partial exception of the 1957 Syrian crisis), and this response lacked some of the resources and sophistication characteristic of later Soviet re-

sponses. The Soviet force in the Mediterranean in late May included only two large combatants, the old cruiser Slava and a destroyer. The Soviets first move was to augment this force. On or before 22 May the Soviets issued declarations for transits of the Turkish Straits by ten warships, to begin 8 days later. Five destroyers transited under these declarations, one on 31 May, three on 3 June, and one on 4 June.

The primary action carried out by these ships was to watch the movements of U.S. and British carriers in the Mediterranean. On 1 June a frigate (later replaced by a destroyer) began trailing the carrier America soon after she moved southeast of Crete. On 2 June a destroyer joined two minesweepers off Malta where the British carrier Victorious was in port. (The U.S. amphibious force was also there.) Surveillance of carriers by single combatants in the area south and east of Crete continued through the rest of the crisis.

The Soviet ships may have undertaken one other mission during this crisis. A day or two after the end of the fighting on 10 June, Soviet combatants appeared in the region between Cyprus and Syria. They may have been there to protect Soviet aircraft and merchant ships carrying supplies to Syria.[5]

Two other naval events later in 1967 were associated with the June War. After the war, the situation along the Suez Canal was very unstable, and there were intermittent artillery exchanges, including some near Port Said. In July a Soviet naval force that included a cruiser and seven other ships, some missile-armed, entered the harbor of Port Said. A smaller group moored at Alexandria. In a press conference the admiral in command declared that his ships were ready to help repel any aggression. The ships stayed for an extended period -- the last one left in September.

On 22 October an Egyptian missile patrol boat sank the Israeli destroyer Eilat off Port Said. The U.S. responded the same day by sending a two-carrier task group to the Eastern Ionian. This force was released three days later when it became clear that the Israeli response would not be a military one. The Soviets responded by repeating their action of July and again sending surface combatants to Port Said. In addition Soviet combatants again watched the activities of the U.S. carriers.[6]

Jordan, September 1970

U.S. Navy involvement in the 1970 Jordanian crisis was triggered by the hijacking of three airliners to the Jordanian desert. On 9 September the carrier Independence was ordered to the eastern Mediterranean. The amphibious force was also kept at sea. The main

concern of the U.S. at this time appears to have been the safety of its nationals in Jordan, including the hostages.

The situation changed on 16 September when King Hussein went on the offensive against the Palestinians who were contesting his control of Jordan. President Nixon hinted publicly that the U.S. might intervene militarily rather than see Hussein fall. Around this time the carrier Saratoga was ordered east to join America. On 18 September the situation became more serious when Syrian tanks crossed the border into Jordan. At this point the U.S. augmented its naval force in the Mediterranean: the carrier J.F. Kennedy and the helicopter assault ship Guam were ordered to sail from the U.S. east coast. (Army airborne troops were also put on alert.) One possible course of action considered by the U.S. was to have U.S. forces protect Israel while Israeli forces intervened in Jordan to help Hussein.

The Syrian tanks began to retreat on 23 September, and when the carrier Saratoga appeared at Naples on 28 September it was clear that the U.S. no longer felt it necessary to have three carriers in the eastern Mediterranean. On 5 October the U.S. force on station was reduced to one carrier and the helicopter assault ship Guam. Their main purpose was to protect U.S. Army hospitals and medical personnel which had been flown to Amman after the end of

the fighting. The hospitals were withdrawn at the end of October, and the navy units were released soon afterwards.[7]

The Soviet naval response to the Jordan crisis was considerably more sophisticated than their response to the June 1967 War. They entered the crisis with a much larger force already in the Mediterranean, including two cruisers (one of which was once again the old Slava) and six destroyers. They used this force, not just to trail U.S. carriers in the eastern Mediterranean, but to move into position task groups capable of attacking these carriers if ordered. The typical Soviet anti-carrier group consists of a cruiser equipped with anti-ship missiles or large guns, a destroyer trailing the target and marking its position, and often another destroyer to help protect the cruiser against air attack. It is believed that a submarine armed with anti-ship missiles and several torpedo attack submarines are also associated with an ACW group.

As the U.S. augmented its forces, so did the Soviets. On 20 September a ready-made anti-carrier group (a cruiser and two destroyers) entered the Mediterranean, possibly in response to Saratoga's move east. On 1 October another cruiser and a destroyer entered the Mediterranean, giving the Soviets the forces necessary to form an anti-carrier group against each of the three U.S. carriers. In addition, in a most unusual move, the Soviets moved one of their anti-ship missile submarines eastward across the Mediterranean on

the surface. On the other hand, the Soviets did not form anti-carrier groups around U.S. amphibious ships (including Guam) and, if one discounts the presence of Slava, they lacked the surface ships to do so. Their coverage of the amphibious force was limited to single combatants.[8]

October 1973 War

The October 1973 War was the occasion for the most intensive use of naval crisis management in the Mediterranean by both the U.S. and the Soviets. The U.S. Navy's crisis response began on 7 October when the carrier Independence was ordered from Athens to a position southeast of Crete. She remained there until 30 October as the key element of the U.S. naval reaction. On 8 October the Sixth Fleet's amphibious group, led by the helicopter assault ship Guadalcanal, was ordered to assemble and remain at Souda Bay, Crete. The primary U.S. objectives at this stage were probably to protect U.S. nationals in the belligerent countries and to be ready for future contingencies.

As in 1967 and 1970, the U.S. naval response intensified when the survival of one of the belligerants appeared in doubt. Beginning on 11 October Israeli successes on the Golan Heights raised the possibility that the Syrian front might collapse, opening the road to Damascus. Around 10 or 11 October the Soviets appear to have alerted three airborne divisions, raising the possibility that

they might intervene if the Israelis went too far. These events were among those that led the U.S. to order the carrier J.F. Kennedy to sail on 13 October from Scotland for a position 100 miles west of Gibraltar, where she was to remain ready to enter the Mediterranean. Around the same time a second helicopter assault ship, Iwo Jima, sailed from the U.S. east coast to the Mediterranean. Her main function was probably to augment the Sixth Fleet's evacuation capability.

The U.S. ships in the Mediterranean now began to use their military capabilities in support of U.S. policy -- although in strictly non-violent ways. On 10 October the Soviets began a major effort to send munitions to Syria and Egypt, both by air and by sea, and it soon became clear that the U.S. would have to offset this by similar support to Israel. The U.S. airlift began on 14 October. Beginning on 15 October six destroyers were detached from their carrier groups and sent to picket stations the length of the Mediterranean to guide and protect the U.S. logistic aircraft. On 16 October the carrier Franklin D. Roosevelt, which had been carrying out routine operations in the western Mediterranean, was sent into the Ionian Sea to support the airlift. When the U.S. began replacing combat aircraft lost by Israel, the three carriers, especially Roosevelt, played a key role in refueling and servicing the replacement aircraft on their way to Israel. On 22 October Independence provided direct support to U.S. diplomacy by

providing a fighter escort to Kissinger on his flight to and from Israel.

On 25 October the U.S. naval response was again intensified, this time due to the Soviet threat to intervene to protect Egypt from the extreme danger she faced. When the U.S. set Defense Readiness Condition 3 in response to the Soviet threat, all three carriers and the amphibious group were ordered to converge on Independence's position. To improve the ability of the force to defend itself, four of the six pickets were recalled to the main formation. By 28 October all three carriers were on station south of Crete. On 30 October they began to move west, primarily to improve their defensive posture. The U.S. relaxed its naval posture somewhat on 3 November when Independence entered Athens, but all three carriers were again at sea on 11 November. The Sixth Fleet was returned to normal peacetime readiness on 17 November.[9]

The Soviet naval response to the October War demonstrated both the ability to counter the U.S. Navy, that they had shown in earlier crises, plus a new ability to support their own crisis objectives. Soviet action against the U.S. Navy began on 7 October when a single destroyer followed Independence south from Athens. As the situation in Syria deteriorated, the Soviets on 9 October increased the force covering Independence to a full anti-carrier group led by a Kynda-class anti-ship missile cruiser. The Soviet

posture was relaxed slightly on 16 October, when the Kynda group was relieved by a group led by a gun cruiser. Elsewhere in the Mediterranean, the Soviets continued their routine practice of patrolling straits and assigning a combatant to trail carriers east of the Strait of Sicily -- thus Roosevelt acquired a Soviet escort when she moved east on 16 October. The Sixth Fleet amphibious force at Souda Bay was watched primarily by auxiliaries, while Kennedy and Iwo Jima, then in the Atlantic, were each monitored briefly by Soviet units.

It is possible that the Soviets anticipated a strong U.S. naval response to their intervention threat of 24 October, for as their threat was being transmitted to Washington, the Kynda group moved back into position around Independence, relieving the gun cruiser. The Soviet response to the eastward movement of the other U.S. forces was to cover each with an anti-carrier group when it arrived near Independence. A group led by a gun cruiser intercepted Roosevelt on 26 October, and on 29 October an anti-carrier group led by another Kynda-class cruiser was sent through the Turkish Straits to cover Kennedy. This Soviet coverage of U.S. forces also contained two additional features. On 26 October the group surrounding Independence began an anti-carrier warfare exercise against the carrier group, thus underlining the seriousness of the Soviet posture. In addition, on 27 October an anti-carrier group led by a gun cruiser formed around the U.S. amphibious force, the

first time amphibious ships as well as carriers had been so targeted. By 31 October the Soviets had four anti-carrier warfare groups in position near U.S. forces, although this posture was soon relaxed.

Despite this concentration of force near U.S. units, the Soviet Navy was also able to support at least two additional objectives that had nothing to do with the U.S. Navy. The first involved the safety of Soviet nationals, and perhaps sensitive Soviet equipment, in Syria and Egypt. The Soviets began evacuating their nationals from Egypt by air on 3 October, and between 5 and 7 October the three Soviet Navy ships that had been in Port Said evacuated more personnel from that port, from Alexandria, and from Latakia, Syria. On 12 October a Soviet naval force began to congregate between Cyprus and Syria. The desperate military situation of Syria, combined with the fact that the force contained most of the Soviet amphibious ships then in the Mediterranean, (most of which did not carry troops) suggests that its purpose was to aid in further evacuation operations if they became necessary. On 24 October a similar group of ships began to congregate off Egypt, perhaps for similar reasons.

The Soviet Navy also significant support to the Soviet airlift and sealift that were replacing the munitions used by Syria and Egypt

in the war. On 13 October, soon after Israeli forces raided Syrian ports and airfields, missile-armed destroyers began to appear in the region north and east of Cyprus. They were sighted escorting merchant ships involved in the sealift to Syria, and may have supported the Soviet airlift as well. (It should be noted that this type of activity could also have supported a Soviet airborne intervention.) The Soviet Navy also apparently used its own ships to carry cargo to Syria. Two amphibious ships transited the Turkish Straits on 14 October proceeded directly to Syria, and then returned directly to the Black Sea on 23 October. Three other amphibious ships entered the Mediterranean on 17 October on a similar mission.[10]

The Soviet Navy was also involved in two other events that were associated with the October War. In April 1973 and again in July, two Soviet amphibious ships carried Moroccan troops to reinforce the Syrian front against Israel. In April these ships were escorted by major Soviet combatants, including a cruiser. A year after the war, a tense situation arose when Syria indicated it was reluctant to renew the mandate of the U.N. peacekeeping force on the Golan Heights. As they had done in Egypt after the 1967 war, the Soviets sent a naval force including a cruiser to call at Latakia, presumably to deter any Israeli action against Syria.[11]

Cyprus, 1974

On 15 July 1974, the day of the Greek coup against President Makarios, the carrier America was ordered to remain at Rota instead of sailing for home (her relief, Independence, had not yet arrived). At the same time, the carrier Forrestal was ordered to remain at sea in the central Mediterranean instead of making a scheduled visit to Athens. The amphibious force was also held at sea.

By 21 July, a day after the Turkish invasion of Cyprus, Forrestal had moved east to a position southwest of Cyprus, while U.S. amphibious ships moved even closer to the island to participate in the evacuation of U.S. and other foreign nationals. On 22 and 24 July, U.S. amphibious ships received evacuees from the British base at Dhekelia and from a British carrier and transported them to Beirut. America was released on 28 July, indicating a relaxation of the U.S. posture.

On 14 August new violence in Cyprus resulted in Forrestal and Independence being ordered to remain at sea in the central Mediterranean and southwest of Crete, respectively. By 19 August both carriers were south of Crete, where there were some anti-American disturbances. On 20 August, after the assassination of the U.S. ambassador to Cyprus, the two carriers and the amphibious assault ship Inchon were ordered to a point midway between Crete and Cyprus. No further naval action was taken, however. Independence

was released before 23 August and Forrestal was released before 2 September.[12]

The Soviet naval reaction to the Cyprus crisis began on about 6 July when 3 or 4 Soviet units including cruisers and destroyers started moving east from the western Mediterranean. By 18 July other Soviet cruisers and destroyers had arrived in the vicinity of Cyprus and were closer to Cyprus than any U.S. units. One can infer that, at this point, the Soviets were more concerned with events on Cyprus and the safety of their nationals there than they were with U.S. Navy activity.

On 22 July, after the U.S. response to the Turkish invasion, a few Soviet ships were reported observing Forrestal and the amphibious ships. The description of this coverage does not suggest that it consisted of an anti-carrier group. The bulk of the Soviet Mediterranean Squadron was in the eastern Mediterranean, which was not unusual but which was also appropriate to the crisis circumstances. On 23 July it was reported that the U.S. had indications that the Soviets might want to evacuate some of their nationals, probably by sea, and that they wanted the U.S. Government and its ships in the area to be aware of the operation. Other reports suggest that about 150 evacuees were involved, and that they had originally been in Nicosia. If these people were evacuated, it

was by Soviet ships, since the U.S. and British were not asked to help and did not evacuate them.[13]

There was no further public comment on Soviet naval activity in this crisis. One can infer that for the remainder of the period there were no unusual concentrations of Soviet forces, either off Cyprus or near U.S. forces.

Lebanon 1976

The U.S. Navy reacted on four separate occasions to the long crisis in Lebanon. On 23 January 1976 the carrier Independence was held at sea near Crete so she could respond if an evacuation of Lebanon was ordered. She was released four days later. Two months later, on 22 March, the American ambassador to Lebanon requested the Sixth Fleet to position ships closer to Beirut in readiness for a possible evacuation. Two amphibious ships, including the helicopter assault ship Guadalcanal, were ordered to the Kithira anchorage along with two destroyers. By 29 March all five ships of the Sixth Fleet amphibious group were at a position called Point Esther, which was 24 hours steaming time from Beirut. On 6 April the carrier Saratoga joined them there. The U.S. posture relaxed somewhat when Saratoga was allowed to participate in an exercise off southern Turkey from 14 to 18 April. On 19 April the amphibious force was moved west to an anchorage east of Crete,

with Saratoga (later relieved by America) operating nearby. They remained there until released on 1 June.

The situation in Lebanon worsened almost immediately, and on 9 June the Sixth Fleet amphibious force was ordered from Spain back to Point Esther. The carrier America was then operating near eastern Crete. On 17 June, following the assassination of the American ambassador to Lebanon, President Ford ordered U.S. citizens there evacuated. Initial plans were to evacuate them by land, but, as a precaution, the amphibious force was ordered to a position called Point Sandy, 12 hours from Beirut, while America was ordered to Point Esther. When plans for the land evacuation fell through, the amphibious force moved to 50 miles offshore while America moved to 125 miles offshore. On 20 June a single amphibious ship, Spiegel Grove, approached Beirut and evacuated 276 persons from the port in one of her landing craft. The Sixth Fleet posture was again relaxed on 22 June.

On 19 July the State Department directed another land evacuation. On 20 July the carrier America was ordered to Point Sandy while the amphibious force moved to Point Esther. The other carrier in the Mediterranean, Nimitz, moved on 22 July to a point west of Crete. Once again plans for the land evacuation fell through, and on 26 July the amphibious force was ordered to a point 25 miles from Beirut while America moved 100 miles offshore. The next day

a single amphibious ship again moved in and evacuated refugees from the harbor in a landing craft. The amphibious force was released shortly thereafter, and America was released prior to 1 August. With the Americans ashore evacuated, the U.S. Navy took no further action in the crisis.[14]

Little information has been made public about the Soviet reaction to this crisis. Figure 1 indicates an abnormally high number of Soviet combatants in the Mediterranean in June, due either to the crisis, an exercise, or both. Several Soviet naval units, including a cruiser, trailed Spiegel Grove during her evacuation operations in June, and other Soviet ships were probably watching other U.S. forces. In July the number of Soviet ships in the Mediterranean fell off and coverage of U.S. forces was limited to Riga-class frigates. The other Soviet ships may have been conducting exercises elsewhere with the Soviet carrier Kiev, which entered the Mediterranean on 18 July for her first operations outside home waters.[15]

POLITICAL OBJECTIVES OF MEDITERRANEAN NAVAL CRISIS MANAGEMENT

Crisis naval actions differ from routine naval activity in that they are intended to support specific political objectives. The objectives of naval actions are rarely stated publicly, but it is usually possible to infer them from two things: the diplomatic situation at the time of the naval action, and the nature of the

action itself. An analysis of the data on Mediterranean crises presented here reveals two important things. First, each navy has been used in support of only a few types of political objectives, but has supported some of these many times. Second, the political objectives supported by the U.S. Navy differ in many ways from those supported by the Soviet navy.

The political objective that the U.S. Navy has supported most often in the crises discussed here is the safety of American nationals overseas. The Navy supported this objective in all of the major crises except the June 1967 War, in which the U.S. relied on its air bases in the area for evacuation support. In the Jordan crisis, the initial American concern was for the safety of the airline hostages. After the fighting abated, American ships were maintained on station to protect U.S. Army hospitals that had been flown into Amman to treat the wounded. Initial U.S. naval movements during the October 1973 War were probably motivated, at least in part, by concern for safety of Americans in the Near East. The sole objective of American naval actions during the Cyprus and Lebanon crises was the safety of American nationals -- once they had been evacuated, naval involvement in the crises ceased. It should be noted that in all of these crises, the way the U.S. chose to protect its nationals was by evacuating them. There was never any thought of seizing territory or establishing a

military presence to protect them in place without withdrawing them.

The objective of the other main group of U.S. Navy crisis actions is less obvious, but can nonetheless be inferred with some confidence. In these crises the U.S. showed a pronounced tendency to move carriers into the general crisis area (but not close to specific targets), even when U.S. nationals were not threatened. In three crises these movements were closely associated with specific events ashore. In the June War and again in the October War the U.S. made relatively dramatic movements of its carrier forces in response to Soviet threats to intervene with airborne troops. (In both cases the U.S. also increased the readiness of its amphibious force by sending them to sea, though this was probably a defensive move.) In the Jordan crisis the U.S. concentrated its two carriers in the eastern Mediterranean and ordered augmentation forces to sail from the U.S. in response to King Hussein's showdown with the Palestinians and the Syrian invasion of Jordan. The timing of these moves suggests that the political objective behind these actions was to deter, or inhibit, two types of military action ashore: actions that would case the fall of a friendly legitimate government, or intervention by countries (in these cases, the USSR and Syria) that had not previously been military participants in the conflict. Similar, though less dramatic, movements were made

earlier in the June War and October War as well as in the Eilat affair, perhaps in anticipation of trouble.

Two other political objectives were supported by a few U.S. Navy crisis actions in the Mediterranean since 1967. The initial eastward movement of Saratoga in May 1967 reflected support for the principle of freedom of the seas, in this case against Nasser's blockade of the Straits of Tiran. In the October War the Navy provided important support to U.S. efforts to resupply Israel with munitions. This resupply effort was a significant political act, in that it ensured that the military balance in the area would not be upset by the Soviet airlift and sealift of supplies to the Arabs.

The political objectives supported by the Soviet navy in these crises appear to have been substantially different from those supported by the U.S. Navy. Concern over the safety of Soviet nationals ashore accounts for only a few naval actions in our five crises. At the outbreak of the October War Soviet ships evacuated some personnel from Port Said, Alexandria, and Latakia. Later in the war the Soviets maintained naval forces off Syria and Egypt that had the capability to evacuate either more people or else sensitive equipment. A Soviet naval movement toward Cyprus early in the 1974 crisis may have been motivated by concern for the

safety of Soviet nationals there, and it is possible that Soviet ships evacuated them.

The desire to deter military action ashore also accounts for only a few Soviet naval actions. These actions, which occurred in Egypt in the period after the June War and after the sinking of Eilat, and in Syria in 1974, were all of the same type: port calls by cruiser groups. In each case the country visited by the Soviets was threatened by Israeli attack. In the two Egyptian cases the port visited by the Soviets was specifically threatened, and the Soviet ships carried missile systems that could make a serious response to an attack. It is worth noting that this type of action -- port calls -- was not used by the U.S. Navy in any of their crises -- the U.S. relied on movements at sea to support this objective.

Most Soviet naval actions during the five crises were not directed toward events ashore but toward the activities of the U.S. Navy. All five crises involve one or more of the following types of actions: movement of Soviet naval forces to the general area of U.S. naval forces, single Soviet combatants trailing U.S. carrier and amphibious groups, formation of anti-carrier groups against U.S. task forces, and, in the October War, conduct of an anti-carrier warfare exercise against a U.S. target. It has been claimed that the Soviets were concerned primarily with the threat that the

U.S. Navy posed to the Soviet homeland, but in fact it appears that their main concern was with what the U.S. Navy might do in the crisis. All of the Soviet actions can be explained as efforts to counter U.S. Navy crisis diplomacy, and some can only be explained this way. For example, if the only Soviet concern was the safety of the homeland, there would have been no reason to form an anti-carrier group around the U.S. amphibious group in the October War.[16] We have inferred that the objective of some U.S. crisis movements has been to deter certain types of military action ashore. The U.S. does this by giving itself the ability to intervene forcefully against these actions. The Soviets respond by showing that they can make us pay a high price for such an intervention. Since the Soviets do not trust "imperialists," they have at times been over-cautious and countered some moves which we know, in retrospect, were only intended to help evacuate American nationals. The main objective of these Soviet actions appears to be to cause the U.S. to think long and hard before using its naval forces to intervene ashore. It is noteworthy that the U.S. has not made any similar effort to inhibit Soviet naval activity, probably because the Soviet navy's capability for forcible intervention ashore is extremely limited.

The Soviet navy is also much more conspicuous than the U.S. Navy in support of another objective -- resupply of friendly countries.

It is possible that Soviet combatants supported the resupply of Syria immediately after the June 1967 War, and the Soviet navy supported resupply efforts in a major way in the October 1973 War, both by escorting and protecting the airlift and sealift to Syria and Egypt and by carrying some cargo to Syria in its own amphibious ships. The sealift of Moroccan troops to Syria earlier in 1973 also falls in this category. Events outside the Mediterranean confirm the fact that resupply of allies is becoming one of the main crisis missions of the Soviet navy.

PROSPECTS FOR THE FUTURE

Having described contemporary superpower naval crisis management in the Mediterranean, it seems appropriate to conclude this paper by asking whether the U.S. Navy will be able to continue to support political objectives in future Mediterranean crises as it has in past ones. Of course, this question is very complex. Here I want to examine what I believe to be one of its most important aspects: what will be the impact of the growth and activities of the Soviet navy on the role of the U.S. Navy in crises? In particular, has the Soviet navy neutralized the U.S. Navy as a political crisis instrument? My ideas on this subject are based on those of my colleague James McConnell which are presented in a new book, Soviet Naval Diplomacy, edited by Bradford Dismukes and McConnell.[17]

From the point of view of the U.S. Navy, the most challenging situations in recent Mediterranean crises have been those in which one superpower has demonstrated an ability to intervene in a regional dispute (the Soviets with airborne troops, the U.S. with carriers) and the other has sought to prevent the intervention. Such situations occurred in the June 1967 War, in the Jordan crisis, and in the October 1973 War. There are four features of these situations that suggest an answer to our question.

The first thing to notice about these situations is that, even though some of them were very serious, none of them resulted in conflict between U.S. and Soviet forces. This fact, which was also true in all other crises since 1945, indicates that the superpowers are extremely anxious to avoid conflict between their forces. It does not mean that they would not fight each other under any circumstances: the military doctrines of both now allow for the possibility of limited conflict between their forces, including conflict over Third World issues. It does suggest, however, that if some basis for agreement can be found that is tolerable to both sides, it is likely to be preferred by both to the risks of direct combat.

The second thing to notice about these situations is that the fact that combat did not occur did not prevent the forces of one superpower from helping to achieve major crisis objectives. For exam-

ple, the Soviet intervention threats in 1967 and 1973 played an important role in stopping the Israeli advances and leading to cease-fires, while U.S. Navy activities in 1970 may have played a similar role in defending Jordan against her enemies. Clearly in these cases one superpower had some kind of advantage over the other that enabled it to act, or make a credible threat to act, despite the dangers involved. The source of this advantage is suggested by the fact that the objectives achieved under these conditions all had one thing in common: they consisted of defending some previously-existing status quo. Certain aspects of the status quo ante, notably the external security and the internal authority of recognized governments, have emerged in many crises as the only clear basis for a tacit agreement concerning the role of the superpowers in the crisis. One reason for this is that the status quo, while unsatisfactory in many details, is evidently tolerable to both superpowers. The rule appears to be that one superpower must tolerate military intervention by the other in a Third World crisis if the intervention is necessary to reestablish the essential aspects of a pre-existing status quo. In the two Middle East wars the significant aspect of the status quo was the continued existence of Egypt and Syria. When Israeli military successes threatened the capital cities of these countries, and thus their existence, the Soviets were able to make a credible intervention threat.

The third thing to note about these situations is that, even when one superpower was acting in support of the status quo, the forces of the other superpower had a role to play. Their job was to limit the action of the first superpower so that he did not go beyond restoration of the status quo and upset it in his favor. For example, if the Soviets had intervened in the Middle East in 1967 or 1973, they might have gained the capability, not only to stop the Israeli advance, but to reverse the military situation and threaten Israel's existence. It would have been the job of U.S. forces to prevent such an excess, either with threats or with action, and to limit the Soviets to the reestablishments of the pre-existing status quo.

The fourth thing to note about these situations is that superpower naval forces defending the status quo were not always superior, or even equal, to the forces of the opposing superpower. In the abstract, Soviet forces in all these crises were inferior to U.S. forces, although the actual balance was ambiguous since the Soviet ability to move ACW groups into position reduced their disadvantage. Despite this ambiguity, it is clear that the forces of both sides were strong enough to prevent an easy local victory by the other side. This seems to be the essential requirement for successful naval crisis management in such cases. It is worth noting that, if the forces of both superpowers were able to put up serious resistance, variations in the naval balance had little impact

on the crisis. It was the political situation, particularly the position of the superpowers with reference to the status quo, that gave one of them the freedom to act or to make a credible threat to act despite the presence of the other side's forces.

These ideas were derived primarily from a study of the Soviet navy in crises. In theory, they also define the minimum forces that the U.S. needs to participate effectively in naval crisis management. However, some additional questions need to be considered before we can decide what forces the U.S. needs in the Mediterranean. First, there is the problem that the Soviets, while respecting the status quo in practice, are ideologically committed to its overthrow. Extra naval forces are a hedge against the Soviets acting on this commitment. Second, additional forces may be needed to cope with opponents other than the Soviets, particularly if the Navy is to play a major role in the projection of force ashore. Third, other commitments in the region, particularly commitments to NATO based on general-war planning, need to be considered. The important thing is that, in judging the adequacy of the Sixth Fleet, at least for crises, we consider factors such as these and not focus exclusively on a comparison of its military capabilities with those of the Soviets. For it is probable that in the future, as in the past, political considerations, not military capabilities, will continue to be the main determinant of the contribution naval forces make to crisis management.

REFERENCES

1. Center for Naval Analyses, Professional Paper 214, "A Somewhat Different View of the Optimal Naval Posture," Unclassified, by R.G. Weinland, June 1978; U.S. Department of Defense, Annual Report, Fiscal Year 1980, p. 161 and Fiscal Year 1981, p. 172. See also Congressional Budget Office, U.S. Naval Forces: The Peacetime Presence Mission (1978).

2. Bradford Dismukes and James McConnell, Soviet Naval Diplomacy, New York, Pergamon, 1979, pp. 42-49.

3. Office of the Chief of Naval Operations, Understanding Soviet Naval Developments (1978), p. 13.

4. Barbara A. Gilmore, "Chronology of U.S. Naval Events" (an unpublished report produced annually by the Operational Archives, U.S. Naval History Division), Dismukes and McConnell, Soviet Naval Diplomacy, pp. 158-168, Jonathan T. Howe, Multicrises, (Cambridge, MIT, 1971), passim.

5. Dismukes and McConnell, Soviet Naval Diplomacy, pp. 158-168.

6. Dismukes and McConnell, Soviet Naval Diplomacy, pp. 118-119, Gilmore, "Chronology," 1967.

7. Gilmore, "Chronology," 1970; Dismukes and McConnell, Soviet Naval Diplomacy, pp. 168-177.

8. Dismukes and McConnell, Soviet Naval Diplomacy, pp. 168-177.

9. Gilmore, "Chronology," 1973; Dismukes and McConnell, Soviet Naval Diplomacy, pp. 192-210; Elmo R. Zumwalt, Jr., On Watch, (New York, Quadrangle, 1976), pp. 447-448.

10. Dismukes and McConnell, Soviet Naval Diplomacy, pp. 192-210.

11. Dismukes and McConnell, Soviet Naval Diplomacy, pp. 134-139.

12. Gilmore, "Chronology," 1974.

13. Department of Defense Morning Briefings, 16-24 July 1974, York TimesNew, 18 July 1974, p. 16 and 23 July 1974, p. 16.

14. Gilmore, "Chronology," 1976.

15. Department of Defense Morning Briefings, 22 June 1976 and 27 July 1976; Gilmore, "Chronology," 1976.

16. Dismukes and McConnell, Soviet Naval Diplomacy, pp. 290-292.

17. Especially Chapter 7, "The 'Rules of the Game'" A Theory on the Practice of Superpower Naval Diplomacy," by James M. McConnell.

CNA PROFESSIONAL PAPERS - 1978 TO PRESENT*

PP 211
Mizrahi, Maurice M., "On Approximating the Circular Coverage Function," 14 pp., Feb 1978, AD A054 429

PP 212
Mangel, Marc, "On Singular Characteristic Initial Value Problems with Unique Solution," 20 pp., Jun 1978, AD A058 535

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), AD A071 472

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), AD A056 228

PP 215
Colle, 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), AD A054 426

PP 216
Colle, 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), AD A054 425

PP 217
Colle, 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), AD A054 442

PP 218 - Classified

PP 219
Huntzinger, R. LaVar, "Market Analysis with Rational Expectations: Theory and Estimation," 60 pp., Apr 78, AD A054 422

PP 220
Maurer, Donald E., "Diagonalization by Group Matrices," 26 pp., Apr 78, AD A054 443

PP 221
Weinland, Robert G., "Superpower Naval Diplomacy in the October 1973 Arab-Israeli War," 76 pp., Jun 1978 (Published in Seapower in the Mediterranean: Political Utility and Military Constraints, The Washington Papers No. 61, Beverly Hills and London: Sage Publications, 1979) AD A055 564

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) (Published in Springer Verlag Lecture Notes in Physics, 106, (1979), 234-253) AD A055 536

PP 223
Mangel, Marc, "Stochastic Mechanics of Moleculeion Molecule Reactions," 21 pp., Jun 1978, AD A056 227

PP 224
Manger, Marc, "Aggregation, Bifurcation, and Extinction in Exploited Animal Populations*," 48 pp., Mar 1978, AD A058 536
*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, AD A058 537
*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 (Published in Journal of Applied Physics, 50, 3630, May 1979) AD A058 538
*Bell Telephone Laboratories, Inc.

PP 227
Mangel, Marc, "Uniform Treatment of Fluctuations at Critical Points," 50 pp., May 1978, AD A058 539

PP 228
Mangel, Marc, "Relaxation at Critical Points: Deterministic and Stochastic Theory," 54 pp., Jun 1978, AD A058 540

PP 229
Mangel, Marc, "Diffusion Theory of Reaction Rates, I: Formulation and Einstein-Smoluchowski Approximation," 50 pp., Jan 1978, AD A058 541

PP 230
Mangel, Marc, "Diffusion Theory of Reaction Rates, II Ornstein-Uhlenbeck Approximation," 34 pp., Feb 1978, AD A058 542

PP 231
Wilson, Desmond P., Jr., "Naval Projection Forces: The Case for a Responsive MAF," Aug 1978, AD A054 543

PP 232
Jacobson, Louis, "Can Policy Changes Be Made Acceptable to Labor?" Aug 1978 (Submitted for publication in Industrial and Labor Relations Review), AD A061 528

*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 Management Information Office, Center for Naval Analyses, 2000 North Beauregard Street, Alexandria, Virginia 22311. An Index of Selected Publications is also available on request. The Index includes a Listing of Professional Papers; with abstracts; issued from 1969 to June 1981.

PP 233
Jacobson, Louis, "An Alternative Explanation of the Cyclical Pattern of Quits," 23 pp., Sep 1978

PP 234 - Revised
Jondrow, James and Levy, Robert A., "Does Federal Expenditure Displace State and Local Expenditure: The Case of Construction Grants," 25 pp., Oct 1979, AD A061 529

PP 235
Mizrahi, Maurice M., "The Semiclassical Expansion of the Anharmonic-Oscillator Propagator," 41 pp., Oct 1978 (Published in Journal of Mathematical Physics 20 (1979) pp. 844-855), AD A061 538

PP 237
Maurer, Donald, "A Matrix Criterion for Normal Integral Bases," 10 pp., Jan 1979 (Published in the Illinois Journal of Mathematics, Vol. 22 (1978), pp. 672-681

PP 238
Utgoff, Kathleen Classen, "Unemployment Insurance and The Employment Rate," 20 pp., Oct 1978 (Presented at the Conference on Economic Indicators and Performance: The Current Dilemma Facing Government and Business Leaders, presented by Indiana University Graduate School of Business). AD A061 527

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 1979k, AD A077 831

PP 240
Powers, Bruce, "Goals of the Center for Naval Analyses," 13 pp., Dec 1978, AD A063 759

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). AD A063 787

PP 242
Simpson, William R., "The Analysis of Dynamically Interactive Systems (Air Combat by the Numbers)," 160 pp., Dec 1978, AD A063 760

PP 243
Simpson, William R., "A Probabilistic Formulation of Murphy Dynamics as Applied to the Analysis of Operational Research Problems," 18 pp., Dec 1978, AD A063 761

PP 244
Sherman, Allan and Horowitz, Stanley A., "Maintenance Costs of Complex Equipment," 20 pp., Dec 1978 (Published By The American Society of Naval Engineers, Naval Engineers Journal, Vol. 91, No. 6, Dec 1979) AD A071 473

PP 245
Simpson, William R., "The Accelerometer Methods of Obtaining Aircraft Performance from Flight Test Data (Dynamic Performance Testing)," 403 pp., Jun 1979, AD A075 226

PP 246
Brechling, Frank, "Layoffs and Unemployment Insurance," 35 pp., Feb 1979 (Presented at the Nber Conference on "Low Income Labor Markets," Chicago, Jun 1978), AD A096 629

PP 248
Thomas, James A., Jr., "The Transport Properties of Dilute Gases in Applied Fields," 183 pp., Mar 1979, AD A096 464

PP 249
Glasser, Kenneth S., "A Secretary Problem with a Random Number of Choices," 23 pp., Mar 1979

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, AD A075 941

PP 252
Nunn, Walter R., "Position Finding with Prior Knowledge of Covariance Parameters," 5 pp., Jun 1979 (Published in IEEE Transactions on Aerospace & Electronic Systems, Vol. AES-15, No. 3, Mar 1979

PP 253
Glasser, Kenneth S., "The d-Choice Secretary Problem," 32 pp., Jun 1979, AD A075 225

PP 254
Mangel, Marc and Quanbeck, David B., "Integration of a Bivariate Normal Over an Offset Circle," 14 pp., Jun 1979, AD A096 471

PP 255 - Classified, AD B051 441L

PP 256
Maurer, Donald E., "Using Personnel Distribution Models," 27 pp., Feb 1980. AD A082 218

PP 257
Thaler, R., "Discounting and Fiscal Constraints: Why Discounting Is Always Right," 10 pp., Aug 1979, AD A075 224

PP 258
Mangel, Marc S. and Thomas, James A., Jr., "Analytical Methods in Search Theory," 86 pp., Nov 1979, AD A077 832

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, AD A077 833

PP 260
Mangel, Marc S. and Cope, Davis K., "Detection Rate and Sweep Width in Visual Search," 14 pp., Nov 1979, AD A077 834

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 Chemical Phys. 70(12), 15 Jun 1979), AD A076 287

PP 262
Petersen, Charles C., "Third World Military Elitas in Soviet Perspective," 50 pp., Nov 1979, AD A077 835

PP 263
Robinson, Kathy I., "Using Commercial Tankers and Containerships for Navy Underway Replenishment," 25 pp., Nov 1979, AD A077 836

PP 264
Weinland, Robert G., "The U.S. Navy in the Pacific: Past, Present, and Glimpses of the Future," 31 pp., Nov 1979 (Delivered at the International Symposium on the Sea, sponsored by the International Institute for Strategic Studies, The Brookings Institution and the Yomiuri Shimbun, Tokyo, 16-20 Oct 1978) AD A066 837

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 (Prepared for presentation to the Conference of the Nordic Balance in Perspective: The Changing Military and Political Situation," Center for Strategic and International Studies, Georgetown University, Jun 15-16, 1978) AD A077 838

PP 266
Utgoff, Kathy Classen, and Brechling, Frank, "Taxes and Inflation," 25 pp., Nov 1979, AD A081 194

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, AD A081 193

PP 269
Weiss, Kenneth G., "The Soviet Involvement in the Ogaden War," 42 pp., Jan 1980 (Presented at the Southern Conference on Slavic Studies in October, 1979), AD A082 219

PP 270
Remnek, Richard, "Soviet Policy in the Horn of Africa: The Decision to Intervene," 52 pp., Jan 1980 (To be published in "The Soviet Union in the Third World: Success or Failure," ed. by Robert H. Donaldson, Westview Press, Boulder, Co., Summer 1980), AD A081 195

PP 271
McConnell, James, "Soviet and American Strategic Doctrines: One More Time," 43 pp., Jan 1980, AD A081 192

PP 272
Weiss, Kenneth G., "The Azores in Diplomacy and Strategy, 1940-1945, 46 pp., Mar 1980, AD A085 094

PP 273
Nakada, Michael K., "Labor Supply of Wives with Husbands Employed Either Full Time or Part Time," 39 pp., Mar 1980, AD A082 220

PP 275
Goldberg, Lawrence, "Recruiters Advertising and Navy Enlistments," 34 pp., Mar 1980, AD A082 221

PP 276
Goldberg, Lawrence, "Delaying an Overhaul and Ship's Equipment," 40 pp., May 1980, AD A085 095

PP 277
Mangel, Marc, "Small Fluctuations in Systems with Multiple Limit Cycles," 19 pp., Mar 1980 (Published in SIAM J. Appl. Math., Vol. 38, No. 1, Feb 1980) AD A086 229

PP 278
Mizrahi, Maurice, "A Targeting Problem: Exact vs. Expected-Value Approaches," 23 pp., Apr 1980, AD A085 096

PP 279
Walt, Stephen M., "Causal Inferences and the Use of Force: A Critique of Force Without War," 50 pp., May 1980, AD A085 097

PP 280
Goldberg, Lawrence, "Estimation of the Effects of A Ship's Steaming on the Failure Rate of Its Equipment: An Application of Econometric Analysis," 25 pp., Apr 1980, AD A085 098

PP 281
Mizrahi, Maurice M., "Comment on 'Discretization Problems of Functional Integrals in Phase Space'," 2 pp., May 1980, published in "Physical Review D", Vol. 22 (1980), AD A094 994

PP 283
Dismukes, Bradford, "Expected Demand for the U.S. Navy to Serve as An Instrument of U.S. Foreign Policy: Thinking About Political and Military Environmental Factors," 30 pp., Apr 1980, AD A085 099

PP 284
J. Kellson,* W. Nunn, and U. Sumita,** "The Laguerre Transform," 119 pp., May 1980, AD A085 100
*The Graduate School of Management, University of Rochester and the Center for Naval Analyses
**The Graduate School of Management, University of Rochester

PP 285
Remnek, Richard B., "Superpower Security Interests in the Indian Ocean Area," 26 pp., Ju 1980, AD A087 113

PP 286
Mizrahi, Maurice M., "On the WKB Approximation to the Propagator for Arbitrary Hamiltonians," 25 pp., Aug 1980 (Published in Journal of Math. Phys., 22(1) Jan 1981), AD A091 307

PP 287
Cope, Davis, "Limit Cycle Solutions of Reaction-Diffusion Equations," 35 pp., Jun 1980, AD A087 114

PP 288
Golman, Walter, "Don't Let Your Slides Flip You: A Painless Guide to Visuals That Really Aid," 28 pp., Oct 1980, AD A092 732

PP 289
Robinson, Jack, "Adequate Classification Guidance - A Solution and a Problem," 7 pp., Aug 1980, AD A091 212

PP 290
Watson, Gregory H., "Evaluation of Computer Software in an Operational Environment," 17 pp., Aug 1980, AD A091 213

PP 291
Maddala, G. S.* and Trost, R. P., "Some Extensions of the Nerlove Press Model," 17 pp., Oct 1980, AD A091 946
*University of Florida

PP 292
Thomas, James A., Jr., "The Transport Properties of Binary Gas Mixtures in Applied Magnetic Fields," 10 pp., Sept 1980 (Published in Journal of Chemical Physics 72(10), 15 May 1980

PP 293
Thomas, James A., Jr., "Evaluation of Kinetic Theory Collision Integrals Using the Generalized Phase Shift Approach," 12 pp., Sept 1980 (Printed in Journal of Chemical Physics 72(10), 15 May 1980

PP 294
Roberts, Stephen S., "French Naval Policy Outside of Europe," 30 pp., Sept 1980 (Presented at the Conference of the Section on Military Studies, International Studies Association Kiawah Island, S.C.), AD A091 306

PP 295
Roberts, Stephen S., "An Indicator of Informal Empire: Patterns of U.S. Navy Cruising on Overseas Stations, 1869-1897," 40 pp., Sept 1980 (Presented at Fourth Naval History Symposium, US Naval Academy, 26 October 1979, AD A091 316

PP 296
Dismukes, Bradford and Petersen, Charles C., "Maritime Factors Affecting Iberian Security," (Factores Maritimos Que Afectan La Seguridad Ibelca) 14 pp., Oct 1980, AD A092 733

PP 297 - Classified

PP 298
Mizrahi, Maurice M., "A Markov Approach to Large Missile Attacks," 31 pp., Jan 1981, AD A096,159

PP 299
Jondrow, James M. and Levy, Robert A., "Wage Leadership in Construction, 19 pp., Jan 1981, AD A094 797

PP 300
Jondrow, James and Schmidt, Peter,* "On the Estimation of Technical Inefficiency in the Stochastic Frontier Production Function Model," 11 pp., Jan 1981, AD A096 159
*Michigan State University

PP 301
Jondrow, James M.; Levy, Robert A. and Hughes, Claire, "Technical Change and Employment in Steel, Autos, Aluminum, and Iron Ore, 17 pp., Mar 1981, AD A099 394

PP 302
Jondrow, James M. and Levy, Robert A., "The Effect of Imports on Employment Under Rational Expectations," 19 pp., Apr 1981, AD A099 392

PP 303
Thomason, James, "The Rarest Commodity in the Coming Resource Wars," 3 pp., Aug 1981 (Published in the Washington Star, April 13, 1981)

PP 304
Duffy, Michael K.; Greenwood, Michael J.* and McDowell, John M.,** "A Cross-Sectional Model of Annual Interregional Migration and Employment Growth: Intertemporal Evidence of Structural Change, 1958-1975," 31 pp., Apr 1981, AD A099 393
*University of Colorado
**Arizona State University

PP 305
Nunn, Laura H., "An Introduction to the Literature of Search Theory," 32 pp., Jun 1981

PP 306
Anger, Thomas E., "What Good Are Warfare Models?" 7 pp., May 1981

PP 307
Thomason, James, "Dependence, Risk, and Vulnerability," 43 pp., Jun 1981

PP 308
Mizrahi, M.M., "Correspondence Rules and Path Integrals," Jul 1981. Published in "Nuovo Cimento B", Vol. 61 (1981)

PP 309
Weinland, Robert G., "An (The?) Explanation of the Soviet Invasion of Afghanistan," 44 pp., May 1981

PP 310
Stanford, Janette M. and Tai Te Wu,* "A Predictive Method for Determining Possible Three-dimensional Foldings of Immunoglobulin Backbones Around Antibody Combining Sites," 19 pp., Jun 1981 (Published in J. theor. Biol. (1981) 88, 421-439
*Northwestern University, Evanston, IL

PP 311
Bowes, Marianne, Brechling, Frank P. R., and Utgoff, Kathleen P. Classen, "An Evaluation of UI Funds," 13 pp., May 1981 (Published in National Commission on Unemployment Compensation's Unemployment Compensation: Studies and Research, Volume 2, July 1980)

PP 312
Jondrow, James; Bowes, Marianne and Levy, Robert, "The Optimum Speed Limit," 23 pp., May 1981

PP 313
Roberts, Stephen S., "The U.S. Navy in the 1980s," 36 pp., Jul 1981

PP 315
Buck, Ralph V., Capt., "Le Catastrophe by any other name...," Jul 1981

PP 316
Roberts, Stephen S., "Western European and NATO Navies, 1980," 20 pp., Aug 1981

PP 317
Roberts, Stephen S., "Superpower Naval Crisis Management in the Mediterranean," 35 pp., Aug 1981

DAT
FILM