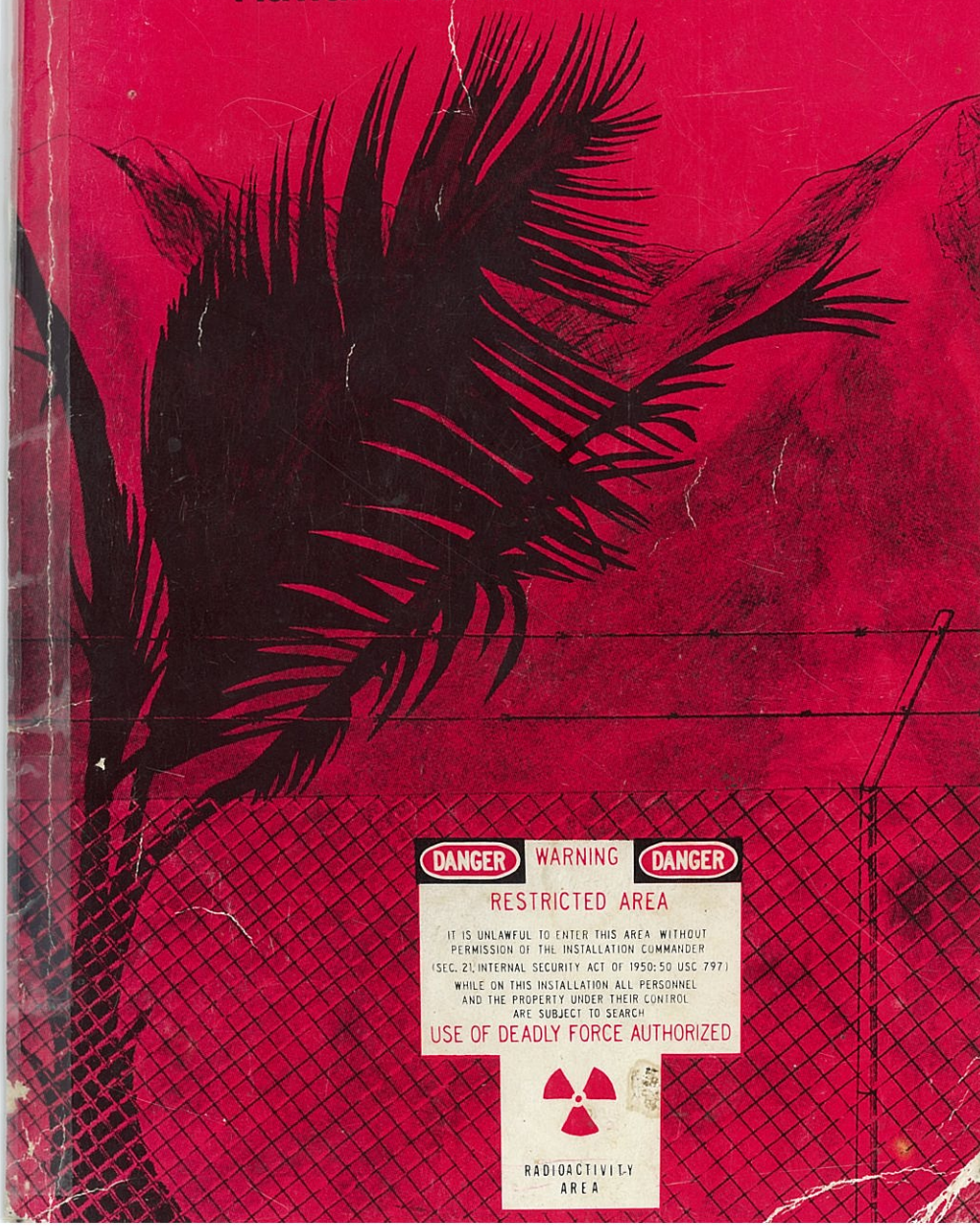
THE DARK SIDE OF PARADISE

Hawaii in a Nuclear World



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Hawaii in a nuclear world

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First published September 1980

We are grateful to:

Ian Lind for the appendix
Keith Kruger for the cover design
Andy Thomas for his original drawings
Roseyn Devlin and Robin Foster for proofreading assistance, and everyone who contributed moral or financial support for this project.

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INTRODUCTION

If you are reading these words in Hawaii, you are reading them in the most densely militarized state in the nation.

If you are reading them on Oahu, you are reading them on a prime nuclear target, one of the most dangerous places you could possibly be in the event of nuclear war.

No matter where you are reading them, the arms race affects you. No one escapes its impact.

Unfortunately, information about military affairs, especially about nuclear weaponry and other sophisticated warfare systems, rarely reaches public awareness. Some trickles down from national capitals by way of wire service dispatches and network broadcasts, but by the time it reaches the local media, it is third-hand information clipped from context and heavily edited.

Under these circumstances, it is understandable that most of us remain basically ignorant about military issues. The complexity of modern military technology is more than the TV news or the daily paper can handle without changing its format dramatically. Even elected representatives cannot cope with the actual volume of military news unless they—and their staffs—devote unusual attention to this single aspect of the world's affairs.

But it is not only ignorance that makes us oblivious to the local and global implications of military matters: often conscious deception is involved as well, and frequently this deception is achieved through armed forces' secret operations. In the United States, for example, President Johnson and his advisors devised the "Gulf of Tonkin Incident" to escalate the Vietnam War on false pretenses. Likewise, President Nixon and Secretary of State Kissinger conducted a secret air war against Cambodia and Laos to avoid public responsibility for their acts. And historians have now determined that every U.S. chief executive from Truman to Nixon has, without public knowledge, threatened use of nuclear weapons to intimidate small countries. The data is not yet available on subsequent presidents.

A separate but related class of problems can be traced to the military's own uses of secrecy mechanisms. Again, we can illustrate the point with American examples: President Kennedy had the shock of discovering through the *New York Times* that the Air Force had muscled in on NASA programs, contrary to his specific orders. And Congress was surprised a few years ago to learn that the Pentagon was devising new weapon systems with money budgeted to the Energy Research and Development Administration. Sometimes such secrets have been

kept a long time; we are just beginning to hear, for instance, about "Operation Smokey" and related programs from the '50s, in which U.S. servicemen were used as guinea pigs during nuclear testing.

Some would argue that the abuses of military secrecy must be accepted as inevitable by-products of vital efforts to keep potential enemies in the dark about national combat capabilities. This reasoning does not hold. In these days of electronic surveillance, forces cannot be concealed from foreign powers. As Major General Edward B. Giller, a Pentagon security official, testified in 1973 Congressional hearings, the Soviet Union maintains a thorough working knowledge of the power, placement, and general purposes of the U.S. armed forces. Other nations do the same, in what has become a multibillion dollar game of planetary hide-and-seek.

The great irony here is that military secrecy actually serves to keep the ordinary citizen, not the enemy commander, in the dark. No doubt it is convenient for the military to conduct its business with little public scrutiny, but it is also terribly dangerous. In times when the technology of warfare and the arms race itself are spinning out of control, people literally cannot afford to be ignorant about military affairs. As citizens of Hawaii, of the United States, and of the world, we pay a heavy and rising price for our ignorance. We pay it not just in money but in deteriorating health and in a broad range of social damages as well.

The U.S. Constitution specifies that civilians shall fully control the armed forces, and in the Nuclear Age, such civilian control is even more crucial to democracy and public safety than it was when the Constitution was written. People must educate themselves about military systems and policies to ensure that national defense is guided by civilian values, not by military values.

We hope that the information gathered here will be helpful in understanding the military's relationship with Hawaii, the dangers that relationship poses locally and worldwide, and its high costs. In themselves, the facts may prove upsetting, but this book should also provide encouragement by showing how much of the needed information is already in hand and what promise lies ahead in available alternatives.

We hope every reader, of whatever opinion, will at least see the necessity of creating a vigorous dialogue about fundamental military issues, of bringing armed forces under control, and of halting the arms race. In Hawaii alone, the efforts of the Protect Kaho'olawe Ohana, of the Chinatown and Waiahole-Waikane resistance groups, of the Hale Mohalu patients, and of those working to expose nuclear weapon storage on Oahu—all show that the government *can* be moved if people stand up with pride, determination, and intelligence. And the recent popular outcry against the docking of nuclear waste ships in Hawaiian ports and against nuclear waste storage in the Pacific provide added hope for change. We *can* go forward.

A final note. As far as we know, this book is unique in focusing on the military situation of a single state. It reflects our love for the Islands as well as the State's unusual features of size, location, and military usage. We have tried to make the book readable for people everywhere, but we dedicate it to the people of Hawaii, for the protection of the land and sea, their creatures, our families, and the Island way of life. Life and aloha.

You are about to encounter a foreign language—Pentagonese. It may seem like alphabet soup at first, but it is quite simple, really, and it enables us in a few pages to convey both the facts and the flavor of Hawaii's military connection. Once that is done, we can talk plain talk about what the military presence means to Hawaii residents and the world.

THE MILITARY ALOHA STATE

When Major General John Schofield stepped ashore at Honolulu in 1873, he was no more than a vacationer, it seemed, here to enjoy the beauties of the kingdom of Hawaii. But behind his tourist pose lay a secret mission: to determine the "defensive capabilities" of Oahu's ports and associated commercial facilities. Before Schofield left, he had concluded that the United States should acquire Pearl Harbor for its strategic use in defending the west coast from oversea invaders.

For reasons of their own, American businessmen in the Islands vigorously supported Schofield's report to his superiors. Even before it was made public, they began building economic and political pressure to get King David Kalakaua to go along. Finally, in 1887, against his own better judgment and against the wishes of his people, Kalakaua succumbed to the pressure. Pearl Harbor passed into U.S. hands.

Once this first hurdle was crossed, the military came on strong. Only seven years later, troops from the USS Boston participated in the overthrow of Queen Liliuokalani and the Hawaiian monarchy. After another four years, with Schofield now lobbying powerfully from his new position as chief of all U.S. forces, Congress voted to annex Hawaii. And only four *days* after formal annexation, 1300 Army troops landed near Diamond Head to establish the first U.S. military stronghold in these strategic islands.

In many respects, these interactions set the pattern of Pentagon affairs in Hawaii, but in some respects, of course, there have been significant changes. In particular, Hawaii's strategic value has shifted. Since World War II, the United States has practiced a "forward basing policy" of stationing its fighting units as near as possible to potential war zones. Thus, U.S. forces are posted in a semi-circle from South Korea through to the Indian Ocean, and instead of barring would-be attackers from the mainland, the Islands now serve as a rear base and command center for the "forward deployed" forces to the west.

Matters have also changed markedly in regional political and economic affairs. Diplomatically, the Pacific has increasingly become an American lake, as the United States assumed control of the Trust Territories, made Hawaii a state, and formed powerful post-war ties with such countries as South Korea, Japan, Taiwan, the Philippines, and Australia. For many years, Hawaii residents have seen Asia's leaders pass in review as they stopped in Honolulu for military briefings on their way to or from Washington. Recent friendly relations with the People's Republic of China have solidified the U.S. diplomatic hold on the region.

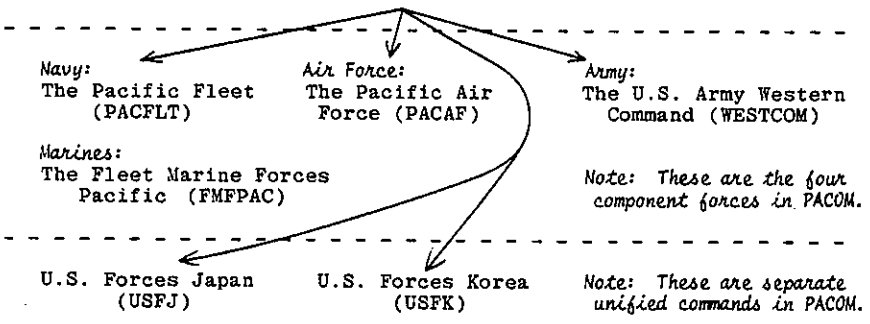
The financial picture matches the political one: as Commander-in-Chief Pacific (CINCPAC) Admiral Robert Long said lately, "the Pacific is really the No. 1 trading area for the United States."[1] Japan has become America's leading partner in overseas commerce, and since 1972, the Asian-Pacific countries have consistently beaten out the European Economic Community in volume of trade with the United States. Long predicts that "the pendulum of world economic activity" will continue to move in this direction.[2] His CINCPAC predecessor, Admiral Maurice Weisner, stressed the Pacific's significance as a growing focus of investments, a key market for U.S. agricultural exports, and a supplier of raw materials important to the Pentagon, NASA, and mainland industries.[3]

In 1980, these political and economic factors brought what has been termed a "key strategic shift" in U.S. military planning—the abandonment of a long-standing policy to swing American forces from the Pacific to the Atlantic in the event of war with the Soviet Union.[4] Termination of this "swing strategy" signals big developments for the U.S. Pacific Command (PACOM). Already there is talk of creating a new 5th Fleet for permanent deployment in the Indian Ocean and of building a new naval base, probably in Australia,[5] as home port for an additional U.S. carrier group. Steam is gathering for steady American build-up in the area.

Hawaii's Role in the Military

The Pentagon's new emphasis on the Pacific will keenly affect Hawaii, due to the State's large role in military affairs. Oahu is the headquarters of PACOM and hub of U.S. military activities for more than half of the earth's surface. Possibly the largest unified military operation in the world, PACOM sweeps from the west coast of North America to the east coast of Africa, from the Arctic to the Antarctic. Its power bears on every country that borders on its seas—the Soviet Union, Indonesia, Mozambique, and every nation between.

Pentagon activities in this vast region are the final responsibility of CINCPAC, whose headquarters are at Camp Smith on Halawa Heights, above Aiea. From



Camp Smith, named for the late General H.M. "Howling Mad" Smith, CINCPAC directs the Asian and Pacific components of all four of the armed forces—Army, Navy, Air Force, and Marines—and each of these has its headquarters in Honolulu. CINCPAC also directs separate commands posted in Korea and Japan.

Since PACOM includes 70% of the world's oceans, the Pacific Fleet (PACFLT) is by far the biggest and deadliest part of the Pacific Command, and CINCPAC appointees are always pulled from Navy ranks. PACFLT has a normal allotment of 210 active-duty ships and submarines, 1800 aircraft, and 223,000 personnel,[6] a fact which makes recent Pentagon allegations of its "inadequacy" ring hollow. When the Navy is more in the mood to strut its stuff, it correctly boasts of PACFLT as "the world's largest naval command both in units and manpower as well as area of responsibility."[7]

PACFLT currently has two numbered fleets—the 3rd and the 7th—to which the new 5th would be added. The 7th Fleet provides most of the Pentagon's power in the Western Pacific and the Indian Ocean, furnishing platforms for forward-deployed troops, planes, and other forces that the public does not customarily connect with the Navy. The 3rd Fleet operates in the Eastern Pacific, from a "chop line" roughly halfway between Hawaii and Guam. Its 150 vessels engage mostly in training exercises and routine patrols, then rotate into 7th Fleet assignments to replace ships coming out of the forward zones. The 3rd Fleet is also available to reinforce the 7th Fleet in the event of war or to "show the flag" in political displays of U.S. power.

Under the Pentagon's "total force concept," PACFLT is equipped with systems ranging from AMTRAC amphibious landing vehicles to towed arrays of ultra-sophisticated sonar and various types of tactical and strategic nuclear weapons. (See box.) PACFLT's ultimate power resides in its ten Polaris-Poseidon subs,

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TACTICAL AND STRATEGIC WEAPONS

A nuclear weapon is customarily classified according to the range of its standard delivery system. A short-range weapon, such as an anti-aircraft missile or an artillery shell, is termed "tactical," while long-range weapons such as ICBMs are called "strategic" systems. Tactical weapons are often, but not always, smaller in blast force (megatonnage) than strategic weapons.

SOME CURRENT U.S. WEAPON SYSTEMS

	Delivery vehicle	**Nuclear warheads usually carried**
Air Force	B-52 bomber*	12 to 20 short-range attack missiles (SRAMs) plus 4 Mark 28 bombs.
	Fighter-bombers	Various bombs including the Mark 28, Mark 43, and Mark 61. Also, Mark 57 depth bombs, SRAMs, and Walleye air-to-surface missiles.
	Titan 2 ICBM*	Single 5 to 10 megaton warhead.
	Minuteman 2 ICBM*	Single warhead yielding 1 to 2 megatons.
	Minuteman 3 ICBM*	3 independent warheads, each carrying 170 kilotons force.
Army	Surface-to-surface missiles	Single warheads yielding up to 400 kilotons. Range up to 450 miles.
	Surface-to-air missiles	Single 5 kiloton warhead designed to destroy formations of aircraft.

Navy/ Marine	Fighter-bombers (carrier launched)	Various bombs, including the Mark 28, Mark 43, and Mark 61. Also Walleye air-to-surface missiles.
	Cruisers	Talos and Terrier surface-to-air missiles, plus anti-sub missiles (ASROCs).
	Destroyers	Terriers, ASROCs.
	Destroyer escorts, frigates	ASROCs.
	Anti-sub aircraft (A-3, P-3)	Mark 57, Mark 101 depth bombs.
	Anti-sub helicopters	Mark 57, Mark 101.
	Attack subs	Anti-sub rockets (SUBROCs), Mark 45 anti-sub torpedos (ASTORs).
	Polaris missile subs*	16 missiles, each with 1 to 3 warheads (200 kiloton to 1 megaton).
	Poseidon missile subs*	16 missiles, each with 10 to 14 warheads of 40 kiloton yield.

* Asterisked systems are strategic; the remainder are generally considered tactical. Note that the strategic weapons compose a "triad"—air-launched, ground-launched, and sea-launched. Pentagon planners believe that all three legs of the triad must be maintained and modernized constantly.

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which cruise continually throughout the PACOM area from their base at Guam. Each sub holds sixteen strategic missiles, and since each of these missiles carries up to fourteen nuclear warheads, a single sub can destroy over 200 targets as far away as 2500 nautical miles.[8] This deadly power, combined with the sub's capacity to hide, leads many theorists to consider Polaris-Poseidon the strongest weapon system presently deployed.

To anchor its power, PACFLT also maintains 55 shore installations scattered across its 102 million square miles of territory.[9] These extend in location and political significance from a naval gunnery range in Nevada to the island of Diego Garcia, a valuable and swiftly developing outpost in the Indian Ocean. But of the 55, surely the pearl is Pearl Harbor. Together with its auxiliary facilities, Pearl Harbor is PACFLT command center, base for a quarter of its vessels, home port for several of the Polaris-Poseidon subs, and mid-Pacific focal point for a wide spectrum of support operations.

PACFLT's ground power is furnished by the Fleet Marine Forces Pacific (FMFPAC), the second of the PACOM component forces. As the name suggests, the Marine Corps was created as an oceangoing troop force, and since the Marines operate under Navy command, FMFPAC's equipment and personnel are included in the PACFLT figures quoted above. No separate statistics need be given here, but it should be noted that FMFPAC controls about 70% of the Marine Corps' total fighting forces.[10] This massing of Marines in the Pacific makes it possible for the United States to enter quickly into wars in less-developed countries of Asia and Africa which, even if friendly, might be unable to accommodate a large Army airlift on short notice.

FMFPAC command shares Camp Smith headquarters with CINCPAC, but its major base in the Islands is the Air Station at Kaneohe, where the First Marine Brigade is maintained as a complete "ready force." When Marines attached to the 7th Fleet are ordered into action, it is the Kaneohe brigade that moves forward to

fill the gap. And when the Marines attack, it is not simply by sloshing ashore through the white-water, as in the old days. Modern hardware under their use extends all the way to nuclear-armed F-4J fighters.

The Pacific Air Force (PACAF) at first seems small by comparison to the Navy/Marine forces, but its 23,700 uniformed personnel and its 280 aircraft are so advanced and so powerfully deployed at forward bases in Asia that they constitute a perpetual threat to nations outside the U.S. military fence. PACAF operates two air bases in South Korea, three in Japan, plus Clark AFB in the Philippines, remembered for its prominent role in the Vietnam War. This imposing stretch of land-based U.S. airpower is supplemented by PACFLT's carrier-launched aircraft and by allied forces flying out of overseas U.S. bases or from their own independent facilities. In addition, CINCPAC can call on Strategic Air Command's B-52 bombers based on Guam; sometimes B-52 squadrons are even placed directly under CINCPAC's orders.[12]

PACAF's units in Hawaii represent about a quarter of its total personnel but relatively little of its firepower, due to the extensive forward-basing pattern. Twenty F-4C Phantom fighter-interceptors operated by the Hawaii Air National Guard provide the backbone of the 326th Air Division, headquartered at Wheeler AFB on Oahu's central plain. These F-4s, on alert status around the clock at Hickam AFB, fall under command of the 326th in the event of war.

Most of the 6000 Air Force personnel in Hawaii work at Hickam, with primary responsibilities in command, logistics, and maintenance functions.[13] Hickam is PACAF headquarters, and it is there that the operations of forward-deployed units are designed, directed, and subsequently analyzed. During the Vietnam era, for instance, it was there that aerial reconnaissance was studied, targets established, and kill effectiveness measured.

The last of the four PACOM component forces, the U.S. Army Western Command (WESTCOM), is headquartered at Fort Shafter, on 1341 acres just minutes from downtown Honolulu. Barring longterm ground war, CINCPAC does not require major detachments of soldiers, but he has WESTCOM's 17,770 at his disposal just in case.[14] Virtually all of these—some 17,500—are stationed in Hawaii. Most are posted at Schofield Barracks, an installation named for the general who first brought the military to the Islands. The current Army Chief of Staff is pushing to broaden the Army's representation in Hawaii and in PACOM,[15] but in the meanwhile, Schofield's 25th "Tropic Lightning" Infantry Division is reportedly poised to "strike like a bolt of lightning anywhere, anytime, as required."[16] Recent training missions have taken detachments from Schofield to South Korea, the Philippines, Thailand, Papua New Guinea, and the Marshalls, among other places.[17]

U.S. and allied forces in Japan and Korea represent separate elements of PACOM power not reflected in the preceding descriptions. These forces are termed "unified commands," signifying that the commander-in-chief in each area has units of all the armed forces directly under his orders. The present Japan unified command is relatively small, serving mainly in logistical capacities, but the Korea command involves a substantial number of ground troops—33,000 U.S. Army personnel[18] as well as South Korean and United Nations soldiers. In military circles, tension regarding North Korea still runs high,[19] and Camp Smith maintains instantaneous communications with the unified command. If fighting broke out there again today, CINCPAC would be calling the shots from scenic Halawa Heights.

Thus far, this summary of PACOM power reveals only the "tip of the warhead." The rest of the warhead is no less important than the tip, but a weighty book, not half a chapter, would be necessary to describe it in detail. Our outline has focused on Hawaii, but even so, it has touched on only seven of the over one hundred military installations in the Islands.[20] While it is these seven that establish the State as the Pentagon power center of the Pacific, it is the many remaining installations whose communication, surveillance, testing, training, and other support functions make PACOM's operations possible. A sketch of the back-up functions:

Maintenance. Hawaii is critically important to the Pentagon as a provider of mid-ocean repair and upkeep facilities, particularly for ships and aircraft. Sub Base Pearl Harbor furnishes complete intermediate submarine maintenance for PACFLT, including replacement of fuel rods for the 44 nuclear-powered subs. Neighboring Pearl Harbor Naval Shipyard is the biggest industrial establishment in the State and the westernmost U.S. shipyard with full-scale drydocking facilities. It is capable of handling repair and refitting operations on even the largest Navy vessels. Similarly, Hickam and Kaneohe Air Station provide an array of maintenance services for military air traffic moving between the mainland and the Western Pacific.

Refueling. As with maintenance, refueling capacity in Hawaii is crucial to PACFLT and PACAF. The Naval Supply Center at Pearl Harbor operates the largest bulk fuel storage facility in the Pacific,[21] and Hickam performs ground or in-flight refueling for any military plane transitting Hawaii.

Training. Due to the extensive land areas it uses, training is one of PACOM's most publicized and most criticized functions in Hawaii. Its three biggest training areas—Kaho'olawe, Pohakuloa on the Big Island, and Kawailoa on Oahu—alone total nearly 161,000 acres. Numerous other parcels of land, ranging in size from 108 to 18,000 acres, are also reserved for training missions. In addition, PACOM enjoys use of "the largest shooting gallery in the world," a super-sophisticated war range in the ocean off Barking Sands, Kauai.[22] Here, U.S. and allied forces participate in air-to-air, surface-to-air, surface-to-surface, air-to-surface, and anti-submarine battle simulations, all of which can later be reviewed on a three-dimensional computer display. To provide this "instant replay" capacity, 1000 square miles of the ocean floor have been wired with hydrophones.

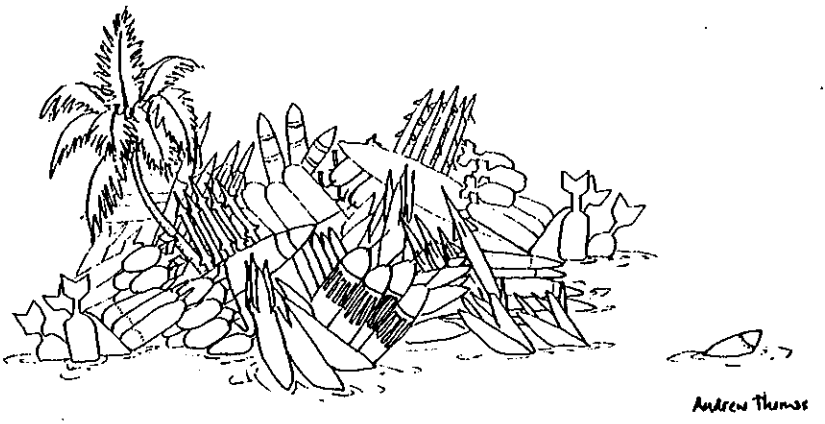
Communications. As PACOM forces range over its hundred million square miles of territory, they stay tuned to Hawaii through extremely powerful communication systems. Primary responsibility for PACOM communications falls to PACFLT, which operates a tremendous transmitter at Lualualei and a companion receiver station near Wahiawa. These twin installations are matched by similar stations on the mainland and Guam as well as in Japan, the Philippines, and Australia. Through direct transmissions and use of communication satellites, this system blankets the PACOM region.

Navigation. In Haiku Valley, near Kaneohe, the Coast Guard runs a VLF (very low frequency) navigation system, one of eight such stations in a worldwide network known as Omega. The Omega system was developed under Pentagon auspices and has a unique quality which makes it especially valuable to the Navy: its VLF transmissions permit submarines to fix their locations precisely without surfacing or extending any sort of aerial. Omega may also serve commercial surface vessels, and for that reason, apparently, it is operated by the Coast Guard, an agency of the Department of Transportation. This arrangement also downplays Omega's military importance and permits the Pentagon to avoid its bills.

Anti-submarine warfare (ASW). The Pentagon has invested enormously in ASW research, equipment, and operations in the past decade, and Secretary of Defense Harold Brown recently stated that America now has the capacity to wipe out the entire Soviet sub force in only three months.[23] Even this seems a conservative appraisal, as science-fiction style developments in U.S. anti-sub efforts clearly indicate that three *hours* may soon be an accurate estimate for extinction of Soviet subs. The key developments on the way are in sub detection, and they include such exotic devices as satellite-mounted lasers and computerized acoustic systems sensitive enough to track even the quietest subs.[24] Once perfected, the new technologies will make possible a single, coordinated strike that blows the Kremlin's strategic fleet out of the water all at once.

Primary ASW responsibility rests with the Navy, which is one reason for PACFLT's extraordinary airpower. In Hawaii, ASW activity is centralized at Barbers Point Naval Air Station, whose squadrons of P-3 Orions rotate in constant ASW duty. Some eighteen Orions are up at all times, fully automated for sub detection and destruction. The Orions carry nuclear depth bombs as well as the Mark 46 torpedo, which can dive to a depth of 2500 feet and pursue the target sub for 20 miles before striking.[25] The Mark 46 can also double back and attack again if it misses on the first pass.

Ordnance supply. The Naval Magazine at Lualualei, together with its branches at Waikele (Kipapa Gulch) and West Loch (Pearl Harbor), has the responsibility for housing, maintaining, and supplying all the ammunition that PACOM forces in Hawaii could conceivably need for today's training or tomorrow's holocaust. That next war could be nuclear, and peace researchers have clearly established the



presence of nuclear weapons on Island soil. Even the Honolulu media now accept that West Loch is a major nuclear storage facility,[26] and conclusive evidence of nuclear weapons storage at several other sites is mounting. Chemical warfare agents are also likely occupants of Oahu stockpiles.[27]

Research. Pentagon research since the '50s has focused on developments in aerospace technology, and the work going on at the four main research installations in Hawaii shows that emphasis. In Oahu's Waianae Mountains, Palehua Solar Observatory watches the sun in a program to predict radio disturbances which can disrupt functions in communication, navigation, surveillance, and guidance systems. The nearby Kaena Point Satellite Tracking Station, the Maui Optical Tracking and Identification Facility on Haleakala, and Kauai's Pacific Missile Test Range station at Barking Sands all engage primarily in missile and satellite research, usually with the military applications concealed from the public. For example, a university scientist employed at Haleakala described recent work there as research to "take the twinkle out of the stars"—a rather innocent description for a highly sophisticated project which involved devising computer programs to compensate for the refraction of light caused by earth-air heat differences.[28] The project's purpose is not innocent either: its aim is to improve U.S. capabilities in tracking, identifying, and targetting foreign satellites.

The Haleakala facility has also teamed with South Point AFS on the Big Island in a project for development of a maneuvering re-entry vehicle (MARV).[29] MARV is the Pentagon's next step beyond the multiple independently targettable re-entry vehicle (MIRV) which now makes America the world's most lethal power. A MIRVed missile carries a "bus" of up to seventeen warheads, each of which may strike a different target; the Poseidon missile discussed above is one example of

this technology. New MARVed missiles will give each warhead the ability to adjust its course in final flight and thus to achieve kills of great precision.[30] Move over MIRV—here comes MARV.

Surveillance and tracking. In Hawaii, as elsewhere in the U.S. system, surveillance and tracking are standard Air Force functions. Powerful radars at Kokee on Kauai and at the peak of Mt. Kaala in Oahu's Waianae Range watch for approaching aircraft and low-flying missiles. The more sensational work of space surveillance and tracking is handled by the Haleakala and Kaena Point installations, probably with assistance from Barking Sands. On Maui, satellite observation efforts include use of a laser system dubbed LARIAT (laser radar intelligence acquisition technology).[31]

Data obtained by the Hawaii space-watching systems is relayed to Colorado for cataloguing and analysis at the underground Space Defense Center of the North American Air Defense Command (NORAD).[32] There, in huge artificial caves blasted out of solid granite, computer-packed buildings sit perched on giant springs, safe even from the tremors that would be set off by a nuclear warhead detonating directly overhead. NORAD maintains a computer catalogue on the nature, location, and orbital characteristics of every object in earth orbit and can command responses from down there, no matter what may be happening here in the outside world.[33]

Space warfare. At present, space warfare is banned, so neither the United States nor the Soviet Union is currently geared for satellite-based or anti-satellite combat. Yet if space war systems are revived, Hawaii will have a role. A cable laid along the ocean floor from Makua Valley in Waianae to Johnston Island, 820 miles away, carries the commands for Missile System 437, which is designed to land nuclear warheads on satellites in any but the broadest earth orbits. This system is presently in deep standby.[34]

Intelligence. All four branches of the armed forces have information-gathering operations, and these come together as a network in the Intelligence Center Pacific (IPAC).[35] Headquartered at Camp Smith, IPAC seeks and digests data from every source available,[36] which include satellites, aerial reconnaissance, intercepted communications, and undercover activity. By these means, it studies military and political affairs throughout the PACOM realm and provides pertinent summaries, visual displays, and analyses to CINCPAC, to the four component forces, and to operational commands. IPAC also would enjoy access to CIA and National Security Agency (NSA) sources, and it is noteworthy that PACOM is coordinating development of a new, major NSA installation at Kunia, Oahu. A three-story underground structure there, formerly a Navy command center, will supply work space for 1400 NSA personnel involved in secret operations.[37]

Arms Sales and Training. America is the world's leading weapons merchant,[38] and all such sales must proceed through military channels.[39] "Security assistance organizations" staffed by PACOM representatives actively promote arms transactions in nearly every nation of the region. Usually attached to U.S. embassies, Pentagon personnel solicit foreign governments for cash purchases of U.S. weaponry and offer a variety of handouts from free arms to low-interest loans, technical advice, and training in use of weapons acquired. At Camp Smith, proposed transactions are studied at "country desks", then passed along for CINCPAC's review.[40] CINCPAC conveys recommendations up the chain of command for final approval and, in this way, maintains a clear overview, if not outright control, of all U.S. arms dealings in his area.

In finishing this section, please note that it is still an incomplete account of Hawaii's role in the U.S. military system. We have avoided exhaustive detail and have chosen to omit some of the most ordinary functions which keep PACOM afloat—supply, storage, retailing, transportation, housing, health care, entertainment, public works, weather services, laundry. . . . Also, it is quite conceivable that the Pentagon, with its size and complexity and flair for secrecy, has succeeded in concealing some of its Island activities.

Yet the extent of PACOM's forces and lethality is clear, and so is the power concentrated in CINCPAC's hands. Of course, CINCPAC's personal initiative is checked from above; the gold telephone which sits in his war room[41] is a gleaming reminder that he functions at the behest of Washington, through orders of the Joint Chiefs of Staff. As a focus of sheer military might, though, that office on Halawa Heights has few equals anywhere in the world. It is accurate to think of Camp Smith as the Pentagon of the Pacific.

One more thing. As such a power center, Camp Smith is a natural target in the event of nuclear war, and for that reason, CINCPAC is furnished with four "Blue Eagles," computerized airborne command posts.[42] These adapted 707s are kept ready on minimum ground alert at Hickam, fueled for extended flight.[43] In a 1980 false alarm, one of these planes was the first and only U.S. aircraft off the ground in response to the supposed Soviet threat; its launch took less than three minutes from the moment of attack alert at NORAD in Colorado.[44] In a real attack, presumably CINCPAC and other top brass would occupy the remaining Blue Eagles and sail aloft to marshall PACOM power from the skies—as mushroom clouds puffed and swelled above Oahu. That, it appears, is the ultimate act in Hawaii's role in the military.

The Military's Role in Hawaii

Just as the Islands play a large role in the Pacific Command, so the Pacific Command plays a large role in the Islands, particularly in the areas of land, politics, public health and safety, and economics. Leaving the rest for separate chapters, we focus briefly now on the first two.

The military's most visible and controversial role in Hawaii is that of large landholder. Despite the tiny total surface area of the Islands, the Pentagon controls 259,000 acres of Hawaiian soil,[45] more acreage than it controls in 36 of the 49 mainland states. By percentage, Hawaii is the most militarized state in the nation, with 6.3% of its land owned or leased by the armed forces.[46] The Pentagon has property on all the islands except those which are privately owned, and Kaho-'olawe is entirely in the hands of the federal government. Without a doubt, though, it is populous Oahu that deserves the title of "The Armed Forces Isle." Most of PACOM's hundred-plus Hawaii installations are on Oahu, and fully a quarter of its turf is controlled by the military. In addition, "submerged lands" throughout Kaneohe Bay and from Pearl Harbor to Koko Head are Defensive Sea Areas controlled by the Navy and *owned* by the federal government.[47]

Such land control has considerable impact on civilian lives. For instance, Fort Shafter occupies 1341 acres of prime business and residential property near the heart of Honolulu; WESTCOM's use of this acreage creates development pressure in the downtown area and keeps much-needed housing space off the market. The Pentagon's grip on land from Shafter westward through Pearl Harbor forces residents to seek living quarters in outlying areas and creates a costly pattern of commuter traffic and energy consumption. In fact, it can be argued that military land use has dictated the direction of Honolulu's urban growth since the mid-'70s.

PACOM landholdings also pose heavy limitations on residents' recreational opportunities. Beautiful beaches are reserved for military use. First-rate fishing and hunting grounds are closed to the public, as are many fine hiking trails. And while residents scheme for accommodations at the State's 44 vacation cabins, military families enjoy easy access to 6 times that number.[48] On crowded Oahu, the State has no cabins at all, but PACOM owns 102 vacation cottages and duplexes at Bellows *alone*.[49]

Other effects of PACOM land control are too numerous to detail here. Among them:

—devastation and/or restricted use of cultural and religious sites important to native Hawaiians and to others who respect the ancient traditions;
—environmental damage, disruption of fragile wildlife habitats;
—limitation of commercial fishing operations;
—obstruction of State efforts to build the convenient reliever airport needed on Oahu.[50]

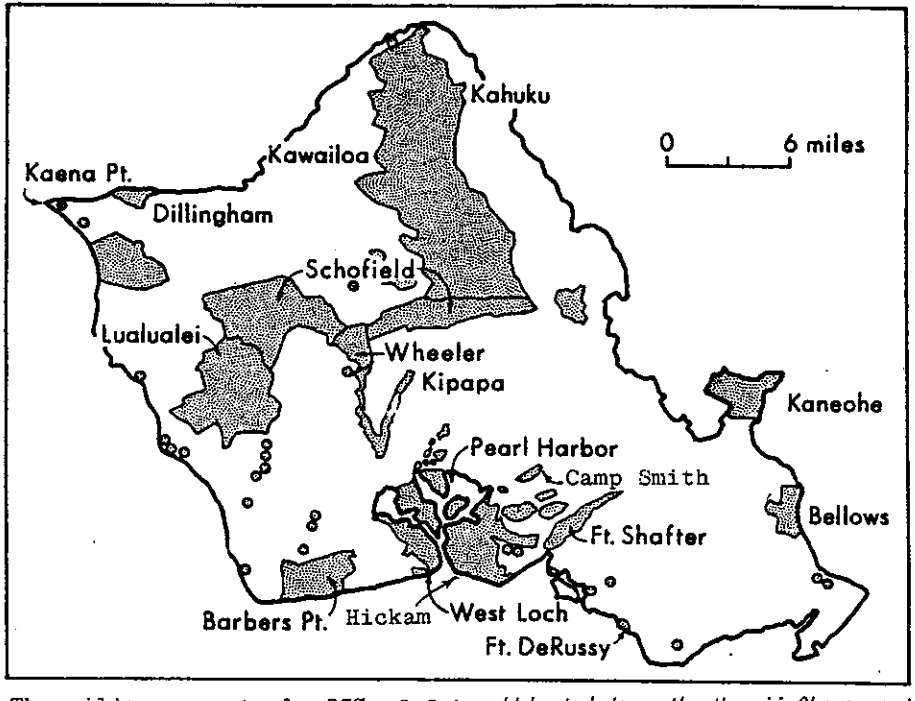
And so on. Sometimes the connection between an event and PACOM properties is not obvious at first. Such was the case of the unpopular and destructive H-3 freeway, whose route and funding were tied to Kaneohe Marine Corps Air Station.

Those who contest military control of Hawaii land soon find that PACOM is difficult to shake. PACOM's acreage is not subject to zoning, and as one Honolulu planning chief put it, the military can and does operate like a "separate fiefdom."[51] Public pressure and court actions have yielded results in the Kaho'olawe and West Loch campaigns, but the progress is slowly, laboriously achieved. And the military wants to keep it that way, of course.

To avoid public pressure and to cut the chances of new laws that would increase legal leverage for citizen groups, PACOM manages community and political matters very carefully. Though it recognizes its advantage in the "very heavy military background in the populace and the legislature,"[52] public support is hardly taken for granted. CINCPAC employs a sixteen-person public affairs office to handle the media and community relations,[53] and this arrangement is repeated on a diminishing scale all the way down the PACOM organizational ladder. At the level of small units like Wing 2 at Barber's Point, a single person often carries the public affairs load, sometimes on a part-time basis. Even so, a conservative count puts the number of personnel working daily in Hawaii on military public affairs at 56. Quite a sizable PR team, and according to one of its members, the team is gearing up for a newly "aggressive," unified approach to community relations.[54]

To put PACOM in the best possible light, public affairs releases emphasize the military's contributions to community life and downplay the problems it creates. The Navy's 1979 fact sheet, for example, lists seventeen pages on the bright side of Navy and Marine activities—blood donated, litter picked up—but not a word on the dark side.[55] Also consistently downplayed are the armed forces' hidden assets. Civilians do not hear about those 102 cottages at Bellows or the 43 acres of Army bowling alleys; on the contrary, we are apt to hear that PACOM is squeezing by with a bare minimum in Hawaii property or that, indeed, it needs an additional 45,000 acres![56]

Besides advancing this less than straightforward PR line, the public affairs offices cultivate community goodwill through military participation in State functions. In 1979 alone, the CINCPAC community relations staff coordinated PACOM involvement in 52 public events, including such festivities as the Merrie Monarch Festival, the International Billfish Tournament, and the 50th State Fair, as well as traditional military-related observances like Independence and Memorial Days.[57]

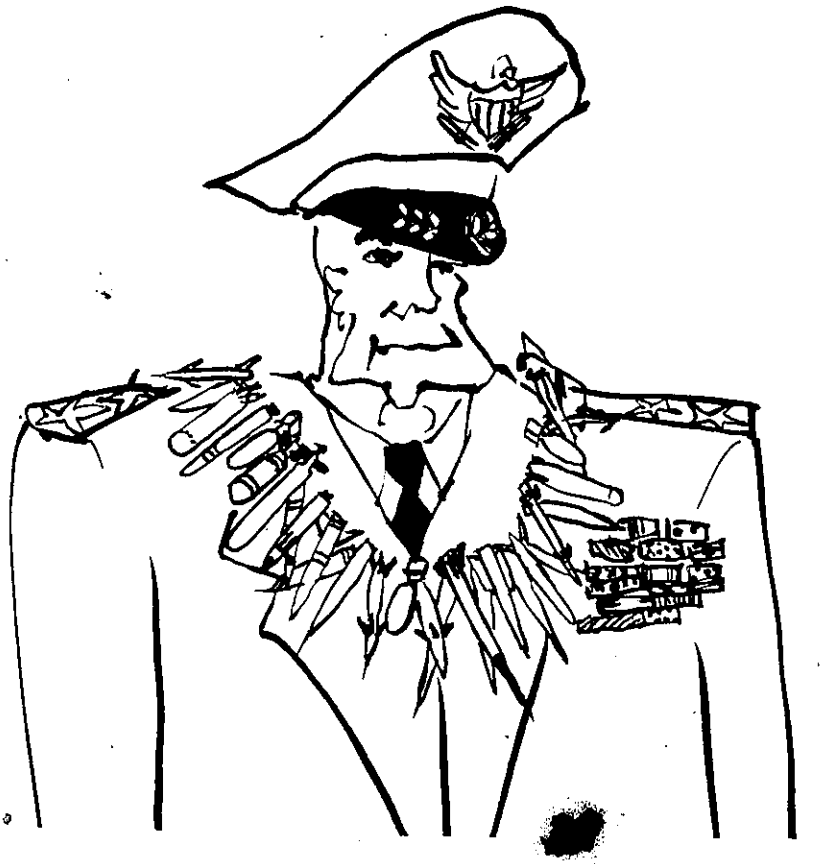


The military controls 25% of Oahu. (*Adapted from the Hawaii Observer.*)

The 1980 Armed Forces Day activities at Hickam and Pearl Harbor put some 50,000 people in the driver's seats of PACOM planes and on the bridges of Navy ships—to the tunes of Danny Kaleikini, the Royal Hawaiian Band, and other musical ensembles.[58]

If PACOM PR is really put to the test, two more elements come to the fore in official statements. First are appeals to patriotism: at the outset of the Kaho'olawe protest, for instance, the Navy called for community support on the dubious grounds that unaltered use of "The Target Island" was essential to national security. Second and last—this tends to be the last word in discussions of the military in Hawaii—PACOM's spokespeople allege that any forced adjustment of its practices will mean cuts in its employment of civilians. Judging by the perpetual kindness the Hawaii press shows the Pacific Command and by the scarcity of citizen outcry, these tools have brought CINCPAC success both with the media and with the populace at large.

This twin success gives CINCPAC a strong basic attack on political problems encountered in PACOM affairs, but he has special weapons, too, for this kind of trouble. According to the director of PACOM community relations, Earl Greathouse, CINCPAC's greatest resource for coping with political controversy is the Honolulu Chamber of Commerce Armed Services Committee, which has helped



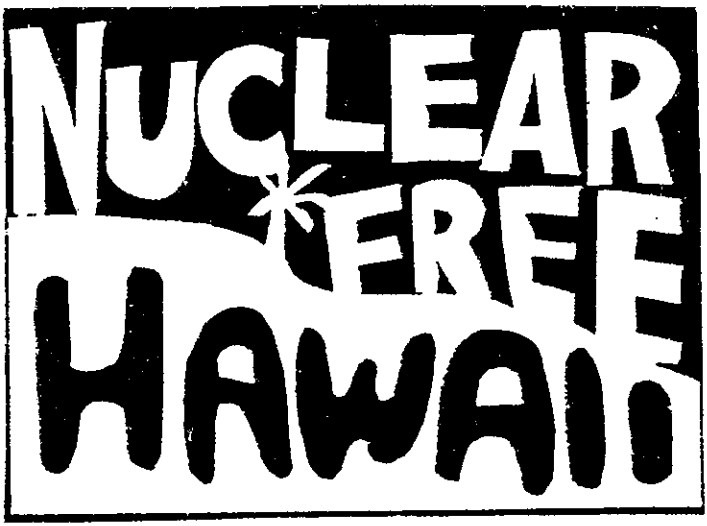
recently to promote PACOM positions on Oahu's proposed reliever airport and on military land use in the Islands generally.[59]

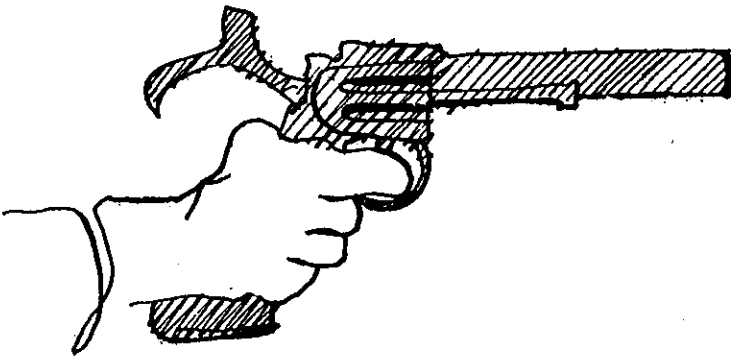
CINCPAC gains additional political support through community liaison groups organized by the component forces, groups heavily stacked with business leaders. The clout of WESTCOM's Civilian Advisory Group, for example, cannot be questioned: its roster is chock full of top executives from Hawaii banks and commercial concerns,[60] and it achieves its aims with marked efficiency. In 1980, its legislative goals were to obtain college tuition assistance for Island reservists and to end the moratorium on Junior ROTC in State schools.[61] Both were quickly realized.

CINCPAC also courts key legislators and administrative officials directly, through such means as specially arranged briefings, red-carpet tours, free rides on PACOM equipment, and invitations to groundbreakings, parades, and change-of-command ceremonies. On Memorial Day 1980, CINCPAC called out a party of 300 civilian leaders, military brass, and veterans for a private event on the Arizona Memorial.[62] And his public affairs staff is careful to include the governor, Honolulu's mayor, and other bigwigs in airport greetings for foreign dignitaries.

All this may prove gratifying to those involved, and it nicely suggests civilian dominance over the armed forces. But it does nothing for the public. There is no actual exercise of State power over PACOM interests. Despite the ceremonious deference, the military holds all the cards. And PACOM's ace in the hole is a voting bloc no one in public office wants to alienate. Military personnel and dependents living in Hawaii total 126,000 or about 15% of the population.[63] If PACOM-employed civilians and the State's 94,000 resident veterans are counted in, the sum jumps to 239,000.[64] Over 25% of the population—an enormous proportion. Along with CINCPAC's direct political influence, this large hand at the ballot box explains why State government has been so consistently cordial to the military.

Of course, the PACOM population block is also a media consumer group. No wonder Island people get so little tough reporting on Hawaii's role in the military and the military's role in Hawaii....





Of all the Pacific Command's effects on Hawaii, perhaps the most immediate and the least discussed is the danger it poses to health and safety—for us, for future generations, and for the Islands themselves. As the military pursues its business around us, we live at risk.

LIFE UNDER THE GUN

It may initially appear strange to consider how the U.S. military presence in Hawaii threatens resident and visitor alike. We have been taught to associate the terms "defense" and "security" with Uncle Sam's warfare systems and to reserve the term "threat" for other warfare systems, most often those of the Soviet Union. Of course there are terrible dangers in the international arms race and political tensions, and we need to deal with them. But here we want to take a look at the immediate health dangers we face simply because we live with the military.

While this chapter will focus on the local hazards of nuclear weapons and the devastating consequences to Hawaii resulting from a potential nuclear war, there are other less spectacular risks and dangers which first need to be addressed briefly.

Conventional Weapon Accidents. As a result of the major weapon storage facilities on Oahu totalling more than 15,000 acres, the frequent movement of weapons between installations, and their use in training operations, there exists a considerable possibility of accidents involving conventional explosives. In fact, the second greatest disaster in Hawaii's history was a 1944 accidental detonation of conventional ammunition at Pearl Harbor's West Loch; more than 500 people were killed or injured by the resulting blasts.[1]

Recent examples of training accidents include the bombing of Maui, of Niihau, and even of fishermen off Kauai. Carelessness seems to have caused the firing of a torpedo on a Pearl Harbor pier from a moored ship and, in another case, a dockside explosion in an atomic submarine's torpedo room. In 1969 a suspected rocket accident triggered an explosion killing 24 and injuring more than 85 on the nuclear aircraft carrier Enterprise as it cruised in Hawaiian waters.[2] While none of these accidents has been as tragic as the West Loch disaster of 1944, with the Pearl Harbor ordnance docks capable of handling up to four million pounds of explosives at a time, the danger of another major accident of this nature remains. And even small accidents take lives.

Air Disasters. In Navy aircraft accidents alone, more than 116 people have been killed in or near Hawaii between 1946 and 1976.[3] The Air Force, Army, and Hawaii Air National Guard have not been exempt from air crashes either, and with three airports—Honolulu International/Hickam, Barbers Point, and Ford Island—clustered within a five-mile radius, it seems only a matter of time before even more serious air accidents occur. Needless to say, there is no guarantee that the fatalities from such a collision or crash would be exclusively military.

Naval Pollution of Hawaiian Waters. The Navy acknowledges discharging 4,843,000 gallons of radioactive liquid waste into Pearl Harbor from nuclear-powered submarines between 1964 and 1973. The Navy also admits to dumping over two thousand 55-gallon steel drums of radioactive solid waste on the ocean floor 55 miles from Hawaii's shores.[4] What effects such pollution may have on marine life and, in turn, the health and safety of Hawaii's people is simply not clear. But it is commonly accepted that there is no safe level of radiation, and even low-level doses of radiation accelerate our aging process.

While the Navy states it has terminated its ocean dumping of radioactive solid waste and has made efforts to minimize its discharge of radioactive liquid waste, there is the continued risk of radioactive pollution from military sources. Nuclear weapon accidents represent one such source, but even conventional weapons pose a problem. Used in training exercises, for example, they have created soil run-off which has seriously harmed the rich fishing grounds around Kaho'olawe. Another pollution threat of huge proportions lies in the possibility of a reactor malfunction aboard one of the 23 nuclear-powered subs homeported at Pearl Harbor or other nuclear-powered warships which frequent the harbor.

Naval Reactor Accidents. As with commercial nuclear power reactors, naval reactors can have accidents. Albert D. Rich, former Navy submarine lieutenant who worked five years in the nuclear power program, has stated that due to space restrictions naval reactors operate at higher fuel temperatures than commercial reactors. Put simply, what this means is that shipboard reactors have a smaller

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EFFECTS OF LOW-LEVEL RADIATION

A growing body of statistical evidence now backs up the concern that those living or working near nuclear facilities are running a higher risk of cancer. Leading epidemiologists from around the country, however, have come to a common conclusion: those exposed to nuclear industry low-level radiation are suffering a dramatic jump in cancer rates.

Due to the latency period for cancer, the radiation/cancer link, though long suspected, has been difficult to prove. But the accumulation of statistical studies and their similar results have confirmed popular suspicions. Below are excerpts from several of these studies.

Johnson Study of Rocky Flats. Dr. Carl Johnson, a county health inspector, collected data on the cancer rates of the Coloradans living downwind of Denver's controversial Rocky Flats nuclear weapons plant. In a report released in May of 1978, Dr. Johnson found that these citizens were suffering a cancer rate significantly higher than that of the surrounding Denver community.

	% of increase*	
Cancer Type	**Women**	**Men**
Lung	—	41
Leukemia	—	40
Lymphoma	10	40
Colon	30	43
Ovary	24	—
Testicular	—	141

*above rates of nearby counties

Mancuso Findings at Hanford. In 1964, Dr. Thomas Mancuso was commissioned by the Atomic Energy Commission (forerunner of today's Department of Energy) to look into cancer rates among workers at the nuclear weapons and waste facility in Hanford, Wa. He found a rate far above the national average, touching off a major controversy. Mancuso's employment was terminated by the A.E.C. before he could complete the study, but excerpts from his preliminary findings are listed below.

Cancer Type	% of increase*
All Cancers	26
RES neoplasms	58
Bone Marrow	107

*above expected rates

Najarian Study of Portsmouth Shipyard. In 1977, Dr. Thomas Najarian investigated the rates of cancer among workers at a nuclear shipyard in Portsmouth, Maine. He found startlingly high rates.

Cancer Type	% of increase*
All types	75
Leukemia	400

*above non-nuclear Portsmouth workers

Source: "Radiation: The Human Cost" Leaflet prepared by SANE, 514 C Street NE, Washington, DC 20002, 1980.

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meltdown margin than their commercial counterparts. Rich also acknowledges that "constant pressure for machine-like perfection" compounded by "long patrols in cramped quarters" leads to "severe morale problems" for crews.[5] This, in turn, could be said to increase the risk of reactor accidents. Even the Oahu Civil Defense Agency recognizes in its *Hazard Analysis*, that "due to the presence of nuclear warships in the area . . . a radiation accident is a significant possibility."

Electromagnetic Radiation. High frequency military communication, navigation, and radar tracking stations emit electromagnetic radiation that can cause biological damage to humans. Such stations exist in several Hawaii locations, including Navy communication facilities in the Nanakuli-Maile and Wahiawa areas. In a study titled "Military Property Requirements in Hawaii (MILPRO-HI) 1979," it is noted that electromagnetic radiation from military facilities may pose a direct danger to citizens, especially on the Waianae coast, and that it also "presents a continuing problem of Hazard of Electromagnetic Radiation to Ordnance (HERO)."[6] According to Lt. Commander Carl in the office of the Commander Naval Base at Pearl Harbor, HERO specifically refers to the danger of ammunition unexpectedly *exploding* due to malfunction caused by the radio transmission.[7] MILPRO-HI also notes that there are "potential HERO problems" at West Loch due to a Federal Aviation Administration transmitter located nearby.[8] This HERO may prove to be a villain in disguise.

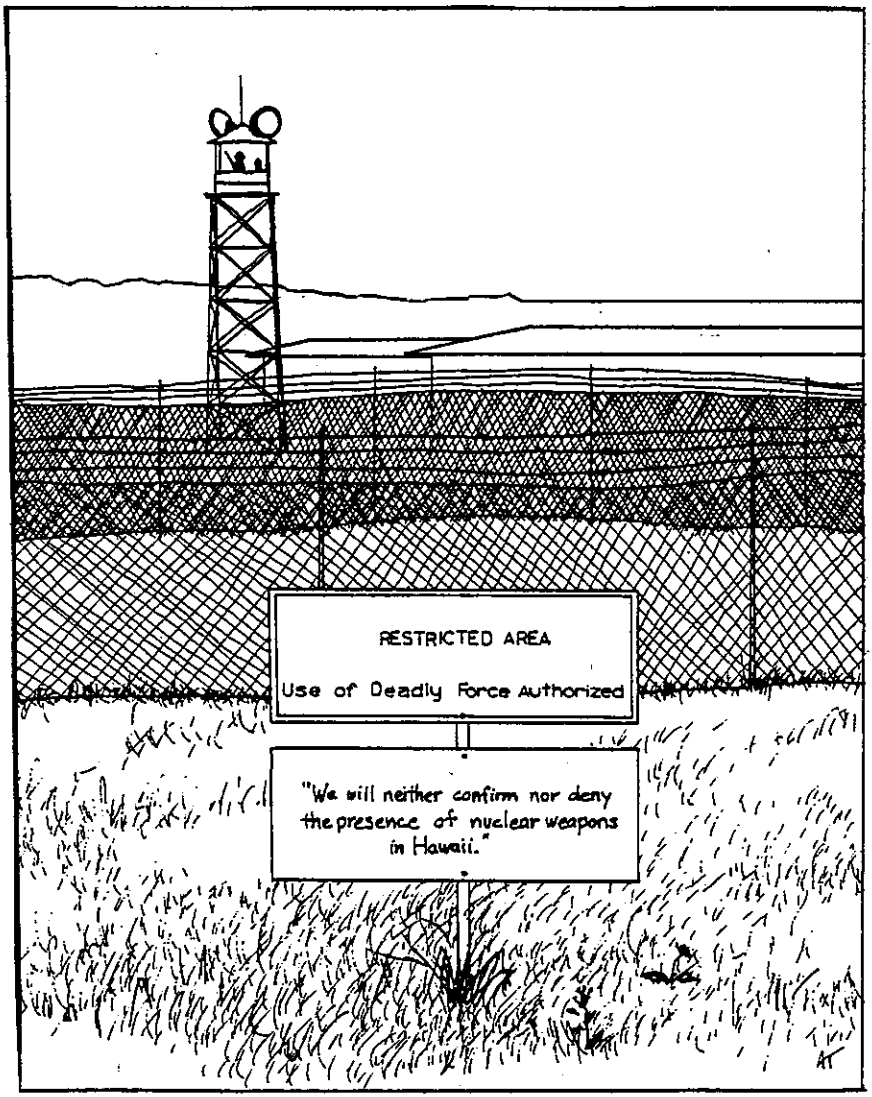
Chemical-Biological Poisons. The United States and many other countries have spent billions of dollars over the years on the production and stockpiling of chemical and biological warfare (CBW) agents. Every U.S. Army division has a chemical warfare company and the Pentagon has been increasing the stockpiles of such weapons recently.[9] As Hawaii is the U.S. military bastion of the Pacific, home of the Army's 25th Infantry Division, it is likely that a sizeable share of the CBW stocks is stashed in Oahu's hidden arsenals.

The near certainty that CBW poisons are in Hawaii is underscored by a 1977 Army Environmental Impact Statement concerning the movement to the mainland of outdated chemical agent training kits from two Oahu locations, Upper Kipapa and Lualualei: if training kits were here, it appears a natural, logical extension to assume that the weapons themselves are here.

It is frightening to note that military authorities have confirmed the 1966–1967 testing of nerve gas agent GB and incapacitating agent BZ on the Big Island only.

fourteen miles from Hilo, Hawaii's second largest city.[10] According to *Chemical & Biological Warfare* author Seymour M. Hersh, nerve Gas GB is "an odorless, colorless, volatile gas that can kill in minutes in dosages of one milligram, approximately 1/50 of a drop." BZ is a gas "which can produce temporary paralysis, blindness, or deafness in its victims. BZ has also been known to cause maniacal behavior. Its precise makeup is secret."[11]

Whether such tests could have long-term health effects we do not know, but new testing certainly could. So might breakage or theft of CBW agents stored in the state.



NUCLEAR WEAPONS IN HAWAII

It has been reported that there were approximately 3100 nuclear weapons on Oahu in 1972.[12] This figure, though never officially confirmed, is roughly consistent with an inventory of the number of weapons needed to supply the nuclear-capable forces based in Hawaii and the stockpile of war reserve weapons allocated to the Commander-in-Chief Pacific.

The Waikele Branch of the Lualualei Naval Magazine, located in central Oahu, has been a major nuclear weapons depot, but operations there are in the process of being relocated to Pearl Harbor's West Loch. According to official Navy sources the Waikele phaseout is due to be completed by 1983.[13]

Extensive documentation, including military directives, regulations, and manuals, the Hawaii Military Telephone Directory, and Federal Court records, demonstrates that the West Loch Branch of the Lualualei Naval Magazine is now a major nuclear weapon storage and maintenance area. In addition, all the federally prescribed physical characteristics for nuclear weapon storage areas have been observed at both Waikele and West Loch: double chain-link fences, special high intensity lighting of the entire area, guards, electronic surveillance detection systems, and unique signs which state, "Use of Deadly Force Authorized."[14]

U.S. nuclear weapons are routinely transported between military bases by land, air, and water; according to military directives, air is the preferred mode of transport for security reasons. As part of our research, we have observed and photographed the loading and transport of nuclear weapons on Oahu. Transport by truck and helicopter takes place regularly, apparently for maintenance purposes. This involves moving nuclear weapons through, over, and around heavily populated civilian areas. Specific nuclear weapons being moved in this way have been identified by matching their shipping containers with illustrations in military manuals.

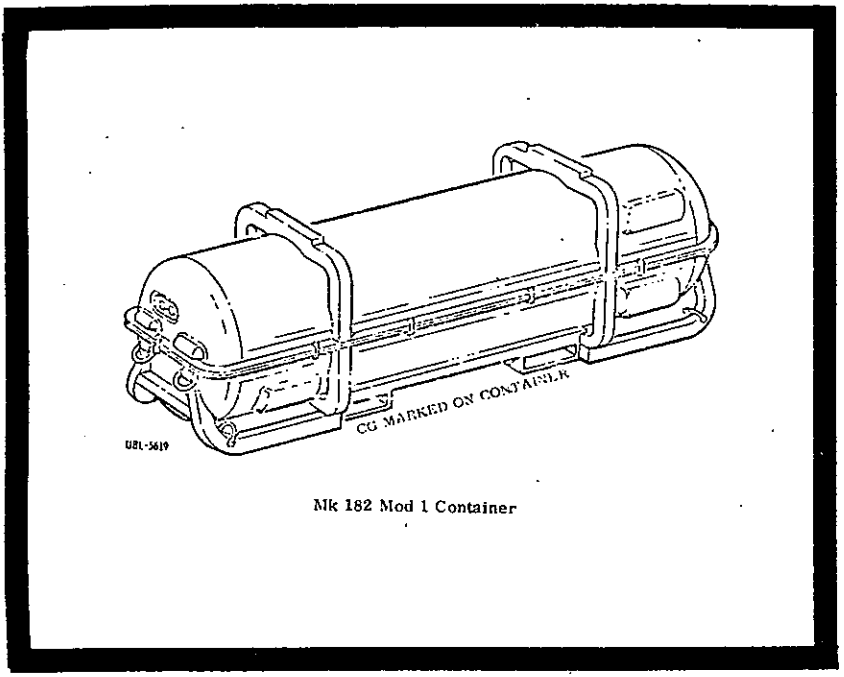
In the process of both our research of documents and opening our eyes to nuclear activity taking place around us, we discovered questions of local nuclear weapon hazards which previously, at least in the civilian community, went generally unrecognized.

Sabotage and Hijacking Risks. The very fact that people like us, working with unsophisticated tools, have been able to make such close observations of nuclear weapon operations, points out the first public danger of these weapons—their potential for terrorist attack. There is no question that global terrorism is on the rise. With Hawaii increasingly becoming an international crossroads and travelers' mecca, Oahu's many weapon depots may become prime targets for terrorist action. Our success in locating and traveling to nuclear weapon facilities indicates that others, perhaps with violent intent, could gain similar access.

Hawaii's conventional munitions areas have been the targets of attack and theft even in the past year. The most dramatic case involved a shoot-out between three Big Island youths and military personnel who found the boys attempting to steal ammunition from the Pohakuloa Army Training Area. This particular incident had repercussions at the Pentagon's highest levels due to concern over possible connections with the terrorist group, "Black September." No such connection was found, but the Pentagon's apprehension on this point illustrates the dangers we face from terrorism.[15]

As early as 1972, the Congressional Joint Committee on Atomic Energy reported that U.S. nuclear weapons were open to terrorist attack, and in 1975 the General Accounting Office (GAO), a Congressional "watchdog" on government functions, supported the earlier report. The GAO charged the Army and the Navy

Loading an ASROC warhead for helicopter transport from Waikele to West Loch.

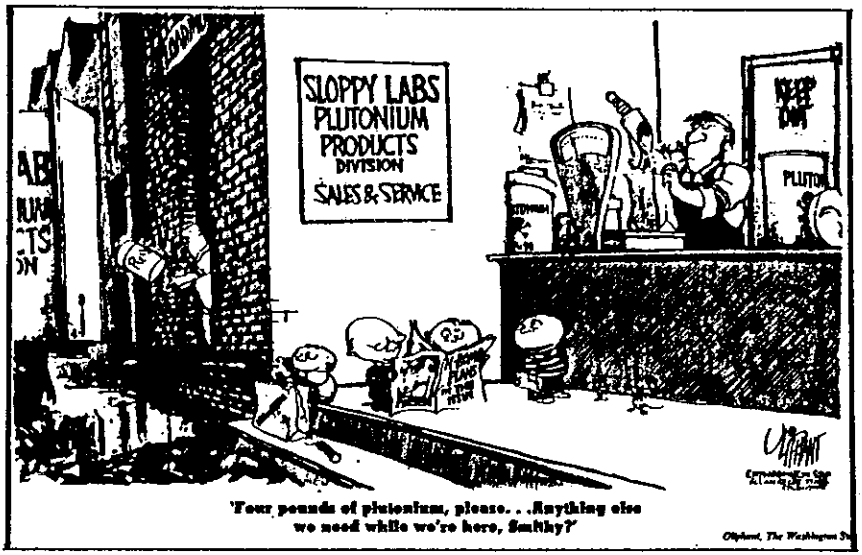


Drawing of ASROC container in Technical Manual 45-51C, "Transportation of Nuclear Weapons Materiel."

with transporting nuclear weapons on public highways in a vulnerable manner, the specifics being:

—lack of armor and entry-denial devices on transporting trucks;
—lack of helicopter aerial reconnaissance and surveillance;
—inadequate en route communications systems;
—lack of security alert teams to respond to emergencies.[16]

This alarming risk of theft or sabotage in the transportation of nuclear weapons and material has led national trucking publications to express serious con-



cern on the issue.[17] Although security measures have been increased over the years, the problem still remains and perhaps is worsening.

Even high-security nuclear weapon storage areas with the latest technology for intrusion detection (including ultrasonic, microwave, electromagnetic, seismic, voice, handwriting, and fingerprint control systems) are not secure, according to the U.S. Nuclear Regulatory Commission's 1979 publication, "Barrier Penetration Database." Ironically, this booklet, which is publicly available for $4.50 a copy, describes what tools and even how much time is needed to get past every fence, door, wall, ceiling, vault, and security device used to protect nuclear weapons. The report even specifies the brand name and amount of explosives required to do the job![18]

The increasing threat of possible terrorist action is responsible for the recent posting of special signs on the perimeter fencing of nuclear weapon sites. Although the signs warn about the authorized "Use of Deadly Force," the history of terrorism indicates that the threat of death does *not* work as a deterrent.

Going over fences is one way of attempting entrance to nuclear weapon sites, but there are other ways. A startling example is cited in a set of Congressional hearings on Military Construction Appropriations for 1979. Joseph Albright, a national correspondent for the Cox newspapers, testified as follows:

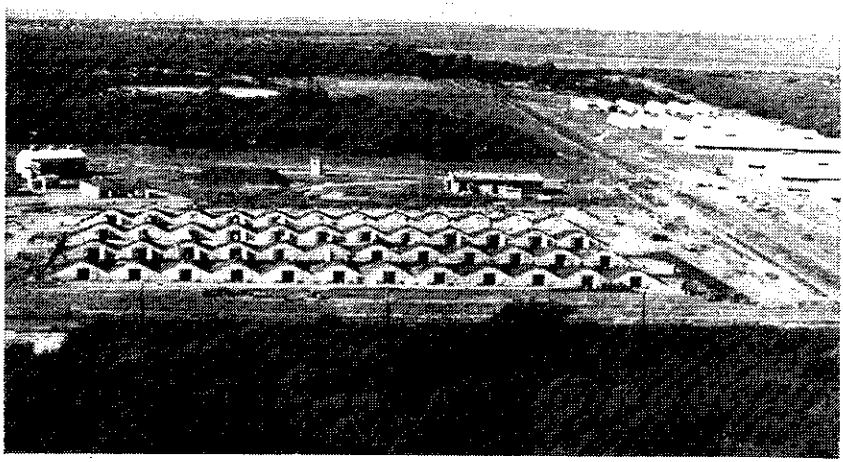
> Posing as a fencing contractor [no one requested proof], I talked my way past the security guards at two SAC nuclear weapons depots and was

given a tour of the weak links in their defenses against terrorist attack. Without doing anything illegal, I also purchased blueprints [through the mail] showing the exact layout of two weapons compounds and the nearby alert areas where B-52's are ready to take off in case of war . . . and a method of knocking out the alarm circuits.

As an imposter at the SAC base I came within a stone's throw of four metal tubes that . . . Air Force officials now acknowledge . . . were actual nuclear weapons. . . . At that moment I was riding about 5 mph in an A.F. pickup truck that was being driven by my only armed escort [with pistol in holster and both hands on steering wheel] . . . [No one] had searched me or inspected my bulky briefcase, which was on my lap.[19]

Even more startling, Albright adds: ". . . after my articles appeared a set of revised blueprints disclosing . . . the wiring diagram for the solenoid locking system for the B-52 area, was mailed to me." This was after Chief of Air Force security police, General William E. Brown, issued a worldwide directive to all Air Force major commands reemphasizing vigilance against intruders.[20]

To bring matters back home and to demonstrate that Albright's penetration into the secrets of nuclear storage is no fluke, it should be noted that Hawaii peace



West Loch nuclear weapon storage bunkers and maintenance facilities.

researchers on several occasions reviewed the blueprints of the West Loch bunkers, weapon maintenance buildings, and security structures.

These rather remarkable examples of the potential for terrorist action may stem in part from a basic conflict of Pentagon concerns about nuclear weapons. The concern about protecting the weapons runs counter to the military's desire to

have them in "readiness." Controls to increase "protection" inhibit access at the expense of "readiness." It appears that the military cannot have it both ways, and its current choice seems to leave the door open to terrorists. The ever more "hair-trigger" readiness postures foreseen for the 1980s promise more of the same.

Unauthorized Actions. A second grave danger is that one of the several thousand people assigned to nuclear duties in Hawaii will engage in what the Pentagon terms "unauthorized actions." Nuclear work involves a broad range of activities which include access to nuclear weapons, knowledge of how the weapons work, and the handling of tools to make them work. According to D. R. Cotter, Assistant to the Secretary of Defense for Atomic Energy, a Personnel Reliability program has been designed "to prevent assignment of unreliable or potentially unreliable persons to nuclear duties through a screening process, and then to remove from nuclear duties those persons whose reliability, trustworthiness, and dependability become inconsistent with the standards." Mr. Cotter adds quite correctly, however, that no "screening process can guarantee future behavior."[21]

According to the Pentagon, each year for the past several years roughly 5000 people who work with nuclear weapons have had to be removed from their jobs because of drug abuse, alcoholism, mental illness, and unusual behavior problems. It must be emphasized that these disqualifications occurred with people already involved with nuclear work, not prior to their entrance into the program.[22]

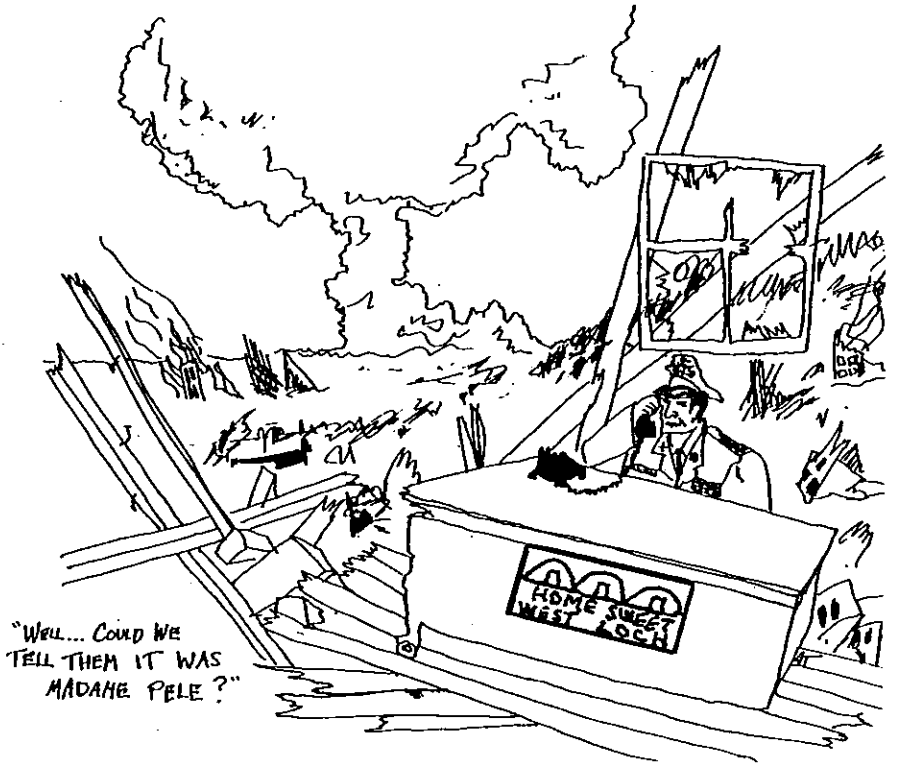
Even more disturbing are reports about ongoing problems which have *not* resulted in disqualification. One enlisted man who worked in nuclear duties for several years aboard a ballistic missile submarine reported in 1979 that, while on cruise, 40% of the personnel smoked marijuana, 10% were "hard" drinkers, and at least 5% used heroin.[23] Even if these figures were reduced 50%, they would represent a serious problem. Obviously, people using such substances, yet having direct access to nuclear weapons or bearing responsibilities in the release of such weapons, pose a danger of unauthorized action that could possibly trigger a major global disaster.

Nuclear Weapon Accidents. In addition to the possibility of deliberate theft, sabotage, or unauthorized use of nuclear weapons, we face various accidental dangers from nuclear weapons. The Pentagon has given such occurrences code names corresponding to their degree of severity. In order of increasing seriousness, the code names are "Dull Sword, Bent Spear, Broken Arrow, and Nucflash." The first two are considered "incidents," the latter two "accidents"; and the range includes everything from adverse publicity in the news media to an actual nuclear blast.[24]

The Atomic Energy Commission and the Defense Department recognize the very real danger of nuclear weapon accidents in their jointly published document, *The Effects of Nuclear Weapons:*

> Nuclear weapons are designed with great care to explode only when deliberately armed and fired. Nevertheless, there is always a possibility that, as a result of accidental circumstances, an explosion will take place inadvertently . . . accidents might occur in areas where the weapons are assembled or stored, during the course of loading and transportation on the ground, or when actually in the delivery vehicle—an aircraft or missile.

While preparing the above statement, the AEC carried out a series of simulated accidents in which a nuclear weapon was placed in a fire, crash, explosion, or



other stressful situation. In at least nineteen cases, according to the AEC, these tests "resulted in a measurable nuclear yield."[25]

Fortunately, outside such tests, no accidental nuclear weapon blast has ever occurred in the United States (or anywhere that we know), but other kinds of accidents have happened. These have largely involved damage to warheads, loss of warheads, and radioactive contamination.

Officially, the U.S. Military admits to 27 nuclear weapon accidents in a twenty year period. Some slight data is provided on thirteen of the accidents, while the others remain totally classified. Of the accidents for which some data is provided, all involved aircraft. Three involved mid-air collisions, and three others involved crashes on takeoff.[26]

The 1977 Yearbook of the prestigious Stockholm International Peace Research Institute (SIPRI) suggests that Pentagon figures are drastically low. SIPRI states that "there have been about 125 (U.S.) nuclear weapon accidents, major and minor combined, between 1945 and 1976, or about one every two-and-a-half months." The SIPRI study shows that nuclear accidents occur more often than suspected and that the total number of such accidents is likely to be considerably greater than the number reported by the government.

Of the major accidents cited in the SIPRI study, nearly all involved long-range bombers. But this may convey a false sense of security about other nuclear weapon systems. It seems likely that accidents of carriers such as surface ships, fighter-bombers, and other aircraft, ground artillery, and the like, simply went

unreported because the press and the public are normally unaware that such carriers have nuclear weapon capability. As SIPRI says, "It does not seem reasonable to presume that major accidents occured only in the long-range bomber category."[27]

Underscoring the fact that more accidents have occurred than are officially admitted by the military, the U.S. Navy has recently acknowledged the existence of documents dated March, 1973 through July 1978, entitled "Summary of Navy Nuclear Weapon Accidents and Incidents." This material, hundreds of pages long, is all classified, but the very acknowledgement of its existence contradicts the Pentagon's official position that no U.S. nuclear weapon accident has occurred since 1968.[28]

Examples of known accidents shed some light on the seriousness of this danger. On January 23, 1961, a B-52 bomber crashed near Goldsboro, North Carolina, carrying two nuclear weapons, each with the explosive equivalent of 24 million tons of TNT. Ralph Lapp, former head of the nuclear physics branch of the U.S. Office of Naval Research, reported that in the crash five of the six interlocking safety devices on one bomb were triggered in the proper sequence for the bomb to explode. In other words, a single tiny switch prevented the bomb from causing an explosion over 1800 times more powerful than that which destroyed Hiroshima.[29]

This example demonstrates that while an accidental nuclear explosion is not out of the question, accidents more frequently involve a spill of radioactive material. Either the detonation of the conventional explosive contained within nuclear warheads or the breaking open of the weapon due to some stressful situation may result in radioactive contamination of extensive areas.

On January 17, 1966, an American B-52 bomber collided during refueling with a KC-135 tanker over Palomares, Spain. On board the bomber were four hydrogen bombs, 20–25 megatons each. One fell into the Mediterranean Sea and was eventually recovered intact after a search which lasted nearly three months and cost untold millions of dollars. Another landed undamaged on the ground. The conventional explosives in the remaining two bombs detonated, however, causing plutonium dispersal over a wide agricultural area. In 1978 military officials reported that, "if there had been an electrical short in the bomb bay at the wrong time [in the Palomares incident] we could have had a nuclear detonation then."[31]

The United States sent in bulldozer teams to scrape up more than 1750 tons of radioactive soil and vegetation, then shipped it to a nuclear graveyard on the U.S. mainland for burial. It has since been reported that the personnel employed in the clean-up operation were not given proper equipment to prevent plutonium inhalation because the Pentagon did not want to create a panic in the surrounding Spanish countryside.[32]

Another example: On January 21, 1968, a B-52 with four megaton-class nuclear weapons aboard crashed on the sea-ice near Thule, Greenland. Plutonium contamination of the ice surface resulted, and snow over large areas had to be removed. The bulk of the plane and bomb wreckage, however, melted through seven feet of ice and sank in the waters of North Star Bay.[33]

These accidents happened far away from Hawaii, but that does not mean we have been free from nuclear weapon accidents here. Given what we know about the military's rather extensive record for conventional weapon accidents and aircraft accidents in Hawaii, it seems likely that nuclear accidents may also have occurred.

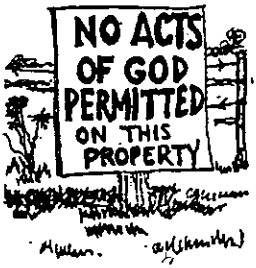
THE WEST LOCH MONSTER

Enlisted men who have been involved in nuclear weapon maintenance have reported the accidental release of radioactive material in the course of work here on Oahu.[34] But secrecy prohibits a clear assessment of the situation. Military guidelines for release of information in the case of an accident recommend the denial that a nuclear weapon was involved. Even State guidelines contribute to the secrecy. For example, Hawaii's *Radiological Accident and Incident Control Plan* authorizes the denial of information on an accident when "official public reporting would cause unfavorable public opinion . . ."

To counter that secrecy, let us do some mathematics. If the figure of 3100 nuclear weapons in Hawaii is even approximately correct, this would mean that roughly 10% of the U.S. nuclear stockpile is located here. It is reasonable to conclude that Hawaii could expect a comparable share of the total accidents reported in SIPRI's work. That would be approximately twelve nuclear accidents over the years since World War II.

If we have been extremely fortunate so far, it is a clear statistical probability that in the course of time a nuclear weapon accident will happen in the State. This fact is even recognized by the Civil Defense Agency of the City and County of Honolulu, which calls the storage of any nuclear weapon "a real concern."

Despite all conceivable precautions in safety, as factors within any system increase in quantity and complexity, the probability of systems failure also increases. Given Murphy's law, "Anything that can go wrong eventually will go wrong," plus the engineering fact of life that imperfect human beings cannot create perfect safety systems, the dangers of nuclear weapon accidents are indeed very real.



Let us consider a variety of scenarios for nuclear weapon accidents in Hawaii:

1. Fire in Nuclear Weapon Maintenance.

Nuclear weapon maintenance work involves lengthy, repetitious, and monotonous routines. Checking and rechecking electronic circuitry, testing and replacing batteries, inspecting gaskets and neutron generators are but a few examples. Routines become boring, neglect sets in, corners are cut—and the risk that something will go wrong increases.

In all electronic gadgets, electronic shorts and resultant fires are a common problem. Despite added precautions, nuclear weapon work is no different. One nuclear weapon facility, fortunately not in Hawaii, has reported over 200 fires in a twenty-year period.[35]

Plutonium, a central ingredient in nuclear weapons, is a highly flammable substance—so flammable, in fact, that it burns spontaneously when merely exposed to moist air. Suppose a plutonium fire occurs at the West Loch maintenance area. What might be the consequences?

PLUTO—THE GOD OF DEATH

There are several types of ionizing radiation which can cause human injury. Plutonium, one of the many daughter isotopes of uranium, is a high energy alpha ray emitter and is one of the most potent carcinogenic substances known. Less than one-millionth of a gram is capable of inducing cancer after close exposure. It has a half life of 24,000 years, which means it is potentially toxic to humans for at least a half a million years. As plutonium is concentrated in the ecological food chain, significant quantities can be absorbed by people who are at the end of this chain. It is preferentially stored in the liver and bone marrow and can cross the placenta into the unborn fetus. It is estimated that more than five metric tons of plutonium have been thinly dispersed over the earth as the result of atomic bomb testing, nuclear accidents, and satellite re-entry and burn-ups.

A Navy document dated March 1978 clearly states that "if plutonium is involved in fire, radioactive particles will accompany toxic or caustic gases in the smoke cloud."[36] Given Hawaii's wind patterns, radioactive particles in the form of smoke could be carried from West Loch over a considerable area, contaminating many people, the State's fastest growing residential area, and some of our best remaining agricultural lands. Under Kona wind conditions, plutonium contamination would travel the eight miles to downtown Honolulu and beyond.

According to internationally respected public health specialist, Dr. Rosalie Bertell, plutonium in the air, water or food supply "is in fact impossible to keep

outside of the body. Implying otherwise constitutes a cruel deception of the public with respect to a very potent carcinogen."[37]

2. Accident in Transit.

As we have already noted, aircraft is the preferred mode of nuclear weapon transport, supposedly because it is least vulnerable to terrorist attack. While this

Helicopter transporting nuclear weapons over heavily populated central Oahu.

may be true, what is gained in the name of security may well be at the expense of safety.

In Hawaii, helicopter crashes are a common occurrence. In fact, between 1974 and 1979, the Army alone had eleven helicopter accidents.[38] Yet Army Chinook helicopters appear to be the most frequently used vehicles in nuclear weapon transport, often flying over heavily populated Oahu areas. In 1976, one of the nineteen Chinook helicopters used in moving nuclear weapons burned in preparation for take-off. It was totally destroyed. Fortunately, in that particular instance it was not carrying "nukes."[39] On another occasion, peace activists photographing a nuclear transport operation observed a loaded helicopter that had technical difficulty prior to takeoff. Mechanics had to be called to the scene to perform emergency repairs before the mission could proceed.

Let us speculate what might have happened if this difficulty had not been detected and the helicopter had gone down in urban central Oahu, near the Waikele weapons base, becoming the twelfth Army helicopter crash in the last five years. In such a case, the impact could trigger the conventional high explosive in the nuclear warhead or simply break the weapon open. In either instance, Hawaii would find its situation worse than those which Spain and Greenland experienced. Those accidents occurred in sparsely populated areas. Central Oahu is quite different; so too are most other places on the island.

3. Plane crash at West Loch

Because of its heavy mix of overseas commercial, military, and interisland jets, together with small private aircraft, Honolulu International Airport has been issued a *red star* rating by the International Federation of Airline Pilots. A red star marks Honolulu as one of the most dangerous airports in the world. In effect, it says that it is a question not if, but when, a major air disaster will occur.

The final approach to runway 8-Left, the principal instrument landing runway at Honolulu International/Hickam A.F.B., passes within one mile of the 48 nuclear weapon bunkers at West Loch. The runway itself is two miles away. Within five miles of West Loch are two additional airports, Ford Island and Barbers Point.

An air disaster at the West Loch nuclear weapons site seems a distinct possibility. Under tradewind conditions, planes on approach to Honolulu International head directly towards the West Loch bunkers, then turn away only moments prior to touchdown. A midair collision in the busy approach lanes could place wreckage directly on top of the West Loch bunkers, easily destroying them since they are above ground and of standard construction.

A similar danger exists for takeoff during Kona wind conditions. In fact, the 1979 Chicago DC-10 crash transposed to Honolulu's Runway 26r with a right engine failure would have resulted in a West Loch "bull's-eye."

The possibility of a plane crashing into a nuclear weapons area is confirmed by historical examples. In September of 1977, an Air Force plane slammed into a mountainside on a high-security Army base in New Mexico, half a mile from a nuclear bunker. A much closer call was the fiery 1956 crash of a U.S. Strategic Air Command bomber in a munitions storage facility at Lakenheath military base in England. Inside the burning structure were three of the most powerful hydrogen bombs ever built. All three were damaged by the impact. Fortunately, there was no explosion either conventional or nuclear, but the accident obviously approached a disaster of unparalleled magnitude. As one might suspect, the matter was covered up. Complete secrecy was maintained to counteract Britain's rising campaign for nuclear disarmament. It was not until November, 1979 that the details of the nuclear nightmare were spelled out publicly by an Omaha newspaper.[40]

Ford Island
Nuclear Weapons
West Loch
Honolulu Runway 8 Left
Approach
HONOLULU
INTERNATIONAL AIRPORT
U.S. NAVY RESERVATION
HONOLULU
DIST

To show what could occur in such accidents, the Lawrence-Livermore (Radiation) Laboratory conducted a study which found that if a single bunker containing nuclear weapons was destroyed, radioactive poisons could contaminate over 100 square miles with a cigar-shaped cloud spreading downwind of the site. A 1979 Government Accounting Office study concurs with the Lawrence-Livermore finding.[41]

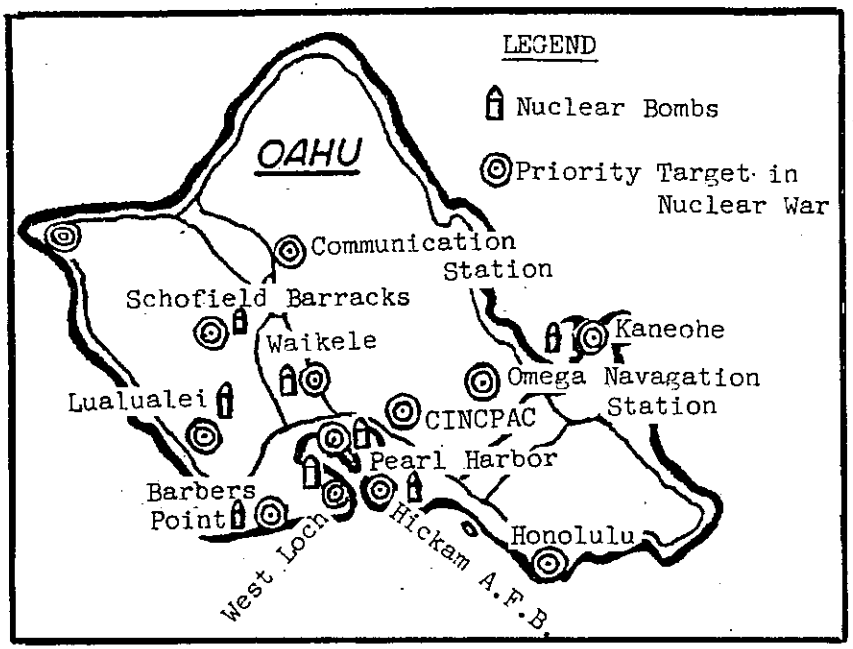
4. Worst Case Scenario.

When the military seeks funds from Congress for new weapon systems, often the request is based on a worst case scenario. Let's do the same for West Loch. According to an Air Force technical manual the C-5A, C-130, and C-141 cargo planes are all authorized to transport incredible loads of nuclear weapons. These planes regularly fly in and out of Hickam A.F.B., using the same runways as planes at Honolulu International Airport.

One example can tell the story: A C-5A is permitted to transport up to 88 B-57 nuclear bombs, each with a yield up to 20 megatons.[42] The load is equivalent to 88,000 Hiroshima-size bombs. Imagine 88,000 "Hiroshimas" crashing into a storage depot already containing more explosive power than has ever been released in all the wars in human history. What would happen is anyone's guess. The result is not likely to be favorable.

HAWAII AS A NUCLEAR TARGET

The ultimate tragedy for Hawaii and the world would be a nuclear war. Advocates of a strong nuclear presence in Hawaii argue that whatever local hazards and risks may be inherent in nuclear weapons are far outweighed by the demands of national defense and the "security" which comes with such weapons. The fact

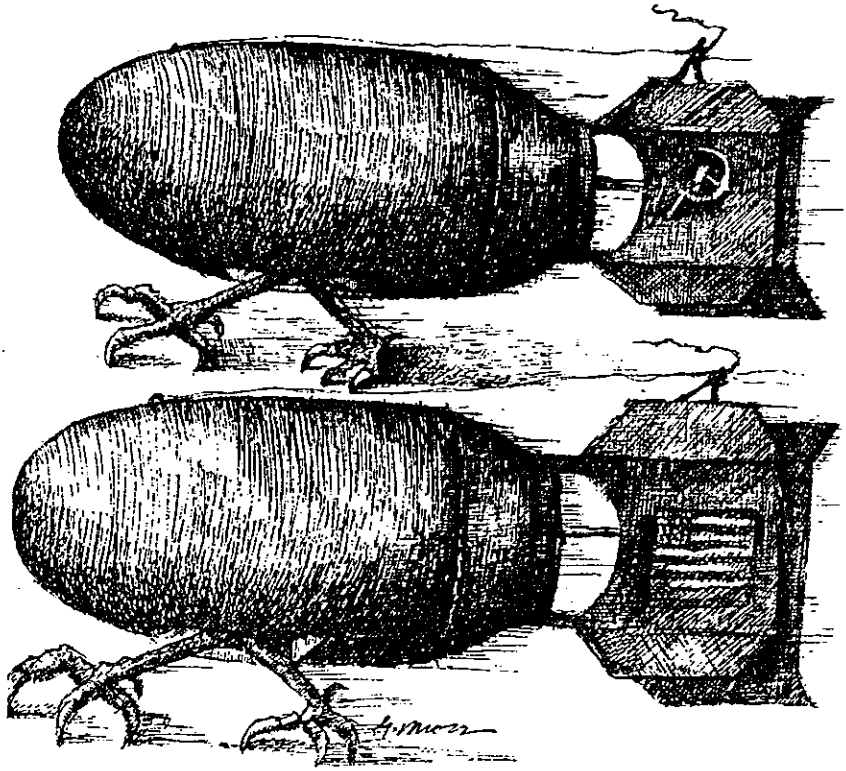


is, however, that there is presently no defense against nuclear weapons. America's $8 billion anti-ballistic missile systems were long ago abandoned as useless, and no replacement system is yet in sight. The irony of our "defense" through nuclear weapons is that their presence here, along with all the other military systems which accompany them, leaves us totally defenseless. In fact, these weapons render Hawaii *less* secure rather than *more* secure, because their very existence makes Hawaii a much more important target than it would otherwise be.

Without question, Hawaii's nuclear weapon depots and the many other key military installations are prime targets in a nuclear war. This conclusion is based on the Pentagon's own Defense Civil Preparedness Agency nuclear attack atlas of the United States. Upon reading the atlas, Lyle Nelson, military specialist for the *Honolulu Star Bulletin*, wrote: "You can color Oahu red—meaning horror."[43]

Also, a RAND Corporation study done for the Pentagon lists key targets in the event of a nuclear war. By matching the RAND list with what is here on our islands, one can see the bleak future in store. Centers of destruction would be: the Pearl Harbor submarine base and shipyard, the Waikele and West Loch nuclear storage facilities, the Camp Smith command and control center, Lualualei's Naval communication station, Haiku Valley's Omega Navigation facility, and major force locations—Hickam, Barbers Point, Kaneohe, and Schofield Barracks. Of course, people who live around military targets would also be killed and chalked up, back at the Pentagon, as "collateral damage." And that is everyone on Oahu.

It is not just people on Oahu who would likely become collateral damage either. It is possible that military installations on the neighbor islands would also be on the "hit list." But even if our neighbors were spared a direct strike, fallout from Oahu nuclear explosions would travel with the upper jetstream winds. Normally these winds travel in a southeasterly direction, which means that within a matter of hours following an Oahu nuclear explosion, fallout would begin to blanket Molokai, Lanai, Maui, Kaho'olawe, and the Big Island. There would be no place to hide.



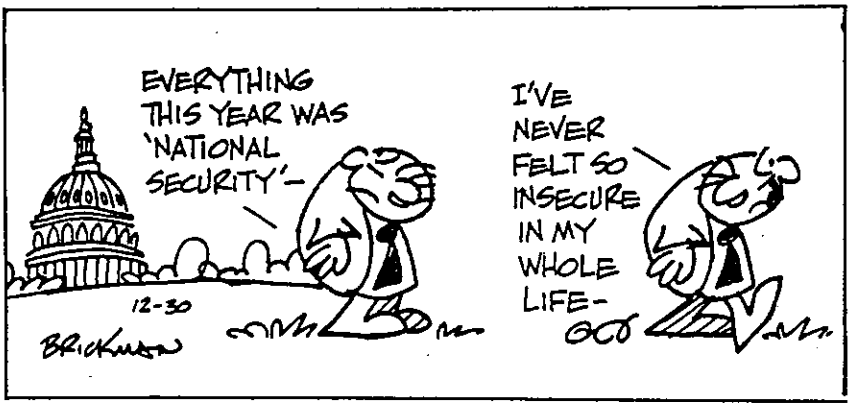
Thus far we have restricted this study to the military systems headquartered in Hawaii and the dangers they hold for us. To understand why the systems are here or to evaluate fully the risks they create, we now have to broaden the picture to include national and international considerations. We cannot possibly understand why the Pentagon has planted over 3000 nuclear warheads in Hawaiian soil without knowing U.S. arms policy as a whole. We cannot adequately judge the potential for atomic devastation of the Islands without taking into account the current international political and economic situation, the East-West military "balance," the possibility of all-out war, and the planetary consequences of such a war. Finally, we cannot responsibly turn our attentions to disarmament until we confront the question so many people ask—

WHAT ABOUT THE RUSSIANS?

The new decade has begun in fearful style, with widespread concern that the world is poised on the brink of unprecedented disaster. In the United States, the Iranian hostage crisis bred anger and frustration, a sense that this country is strangely vulnerable to irrationally hostile behavior on the part of foreign nations. And the Soviet invasion of Afghanistan raised American fears of worldwide communist aggression to a height we have not seen since Nikita Khrushchev pounded the table with his shoe and prophesied that communism would "bury" capitalism.

The international press shares this present sense of terrible danger, as do professional students of international military, diplomatic, and economic trends. But their understanding of the danger and its sources differs widely from that offered by the U.S. media. The recent Muslim uprisings and the Soviet aggression in Afghanistan are viewed overseas as symptomatic of four larger problems which have now pushed us closer than ever to a world-ending World War III.

Problem 1: the Cold War Reheated. In both Moscow and Washington, hawks in government showed fresh vitality toward the close of the '70s, producing a series of decisions which vastly increased tensions between the superpowers. Capitol Hill whipped up an anti-communist fuss over 3000 Soviet infantrymen who had been under U.S. surveillance in Cuba since 1963 and put the SALT II Treaty in deep freeze. In a matching mood, Kremlin hardliners had sufficient support to push through the invasion of Afghanistan over objections of Party moderates.[1] International observers see these and other moves as strokes in an action-reaction cycle which, if not broken, will bring U.S.–U.S.S.R. relations to the flash point.



Problem 2: New Dangers in Nuclear Weaponry. At the turn of the decade, tensions in Europe rose enormously due to Soviet deployment of mobile, medium-range missiles in western Russia and the subsequent NATO decision to install 572 American Pershing II and ground-launched Cruise missiles in Germany and other allied nations. The new NATO missiles are considered particularly dangerous and de-stabilizing—dangerous because those in Germany could quickly fall into a "use 'em or lose 'em" position if a conventional war broke out and de-stabilizing because they hold great potential for first-strike attack on the Soviet Union.[2] The chances of nuclear war have also increased dramatically through advances in first-strike strategic systems on both sides, though international arms watchers again attribute greater danger to the new U.S. long-range weapons and lay primary blame on the Pentagon for the continuing competition.[3]

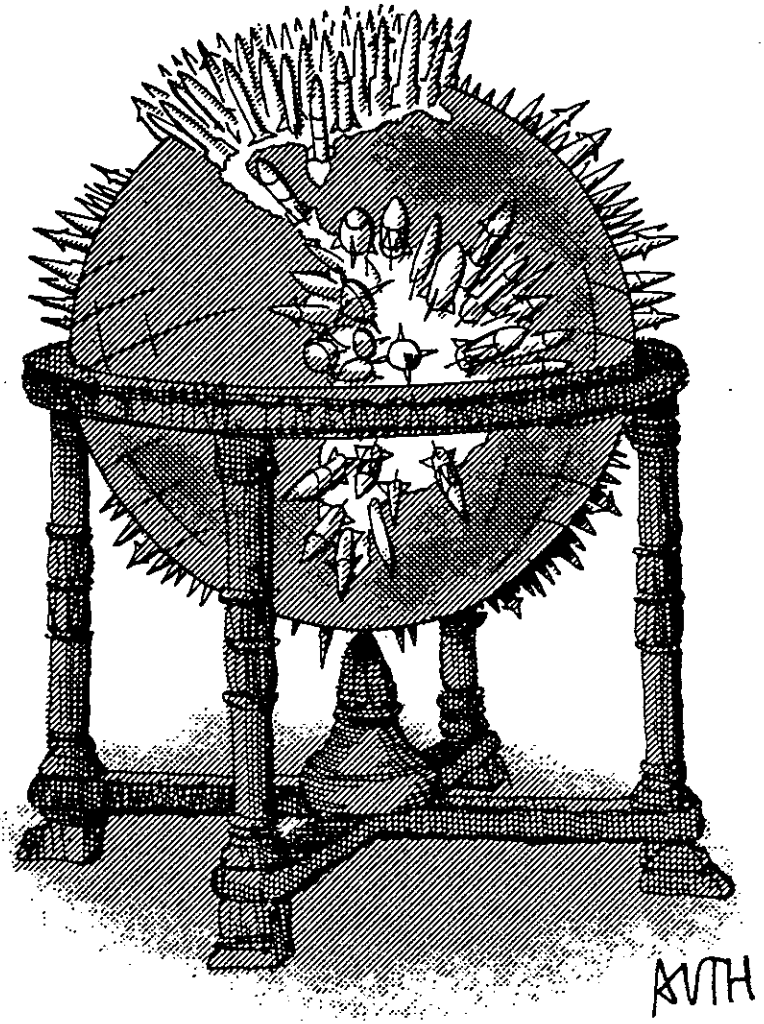
The failure of the SALT process to alter the rate or reduce the hazards of the superpowers' arms race adds to the pessimism and fear abroad. Arms control seems a dismal hoax, and disarmament a fading glimmer of hope. The ill-managed proliferation of nuclear reactors deepens the gloom: the plutonium they produce, coupled with the availability of information on the construction of atomic weapons, means that 36 nations could possess "the bomb" by 1990.[4]

Problem 3: a World Arming Itself to Death. It is not just the superpowers—or just the nuclear powers—whose growing arsenals and aggressive behavior have created the dangers of the '80s. Major, minor, and mini-powers around the globe have rushed feverishly ahead into arms races of their own, breeding fresh hazards for all of us. World arms expenditures, increasing at a steady pace of $9 billion a year, crossed into the new decade just above the $500 billion mark. That works out to almost a million dollars for every minute of every day of 1980.

Another alarming indicator is that world trade in weapons quintupled between 1969 and 1979 and shows no sign of slowing down.[5] This booming business in conventional weaponry has brought an upsurge of violence to which no country has been immune, but the bulk of the carnage takes place where the bulk of the arms exports are received—in the developing countries.[6] Since 1960, the Third World has increased its military-expenditures 400%,[7] and this huge increase, coupled with urgent outcry for national liberation, economic relief, minority rights, and civil justice has created extremely volatile conditions. Guns being in such ready supply both to dissident and government forces, the results are gestapo police tactics, guerrilla wars, military takeovers, and mounting terrorism.

By the end of 1979, there were 37 ongoing armed conflicts on planet Earth, virtually all of them in or between Third World countries.[8]

The ultimate danger of such conflicts lies in their potential to involve the United States and the Soviet Union and thus to spark world war, probably nuclear war. Since the two superpowers are the world's leading weapon suppliers, providing 45% (U.S.) and 27.5% (U.S.S.R.) of major Third World armaments,[9] they are closely connected with nearly all the military confrontations that occur. Often they



trade their guns in diplomatic deals to get political, economic, or military benefits from the receiving nations and are, therefore, likely to interpret regional hostilities in terms of their own "national security" or "vital interests." This is the ever-opening backdoor to nuclear war.

Problem 4: the Fight for Natural Resources. Finally, the stage is being set for destruction by the rapid exhaustion of non-renewable resources. As oil reserves and key mineral assets dwindle, the large industrial nations that depend on them will inevitably come into heated competition for them. After the Afghanistan invasion, corporate officials and military leaders in the United States sounded immediate alarms, for the invasion placed the Soviets only a few hundred miles from the Middle East oil-ports—"the jugular vein of Western capitalism," as General Maxwell Taylor expressed it.[10]

THE IRONY OF FIGHTING FOR OIL

The Pentagon is the leading energy consumer in the United States, using more energy annually than all but 21 of the world's nations. Over two-thirds of its energy is supplied by oil, an unusually high proportion, and almost all of this (81%) is burned up in aircraft and ship operations. Any significant increase in U.S. flying or steaming time thus eats up enormous amounts of petroleum, and the recent intensification of military activity in the Persian Gulf area can be accurately summarized as depleting our oil resources in order to save them. In a conventional war for the oilfields, the United States would probably consume more petroleum than victory would bring.

Source: Center for Defense Information, "The Oil Crisis: Is There a Military Option?" *The Defense Monitor* (December, 1979), pp. 6–7.

As declining resources repeatedly bring such saber-rattling East and West, it is not difficult to see the handwriting on the wall. Unfortunately, the world's richest countries seem stuck in their patterns of quick consumption, determined to sustain the material-growth economies that yielded their present wealth. In Europe and the Third World, criticism of such dangerous behavior is mounting, with much of it aimed at American-based multinational corporations.

The Red Menance—Deflated

Few professional observers of the international scene are buying the picture of Soviet "expansionism" or "geopolitical momentum" painted by Henry Kissinger and other conservatives in the aftermath of Afghanistan. Though such anxieties echo in White House words and deeds, even Secretary of Defense Brown has mildly acknowledged that "in many allied countries the consensus about the character of the Soviet challenge is not as broad or as strong as it is becoming in the United States."[11] Many recent diplomatic difficulties with our NATO friends stem from this difference of outlook: they balk at Washington's efforts to rally them into a newly stern anti-Moscow stance, feeling that the American perception of a Red menace is a lopsided and risky oversimplification of the facts. No doubt some share the feeling that U.S. Chief of Naval Operations Thomas B. Hayward let slip—the feeling that the Soviet Union is "doing the sensible thing" in its current arms development, given its general situation.[12]

The authors of this book believe that international tensions and armed forces worldwide are dangerously great, so we have no interest in downplaying the strength of the Soviet Union or any other nation. We find ourselves in general agreement, however, with the observations outlined above. Every meaningful indicator demonstrates that Soviet global influence has, at best, held steady in the

past decade; there are several indications of declining influence, none of expansion. The Soviet bloc can claim just 12% of the world's countries, the same percentage it has controlled since 1948.[13] The 19 nations now in the U.S.S.R. camp are generally small and poor, representing only 9% of the world's population and 5% of its GNP—down markedly from highs of 31% and 9% in 1958.[14]

In terms of military forces, the Soviet Union has certainly taken significant strides, but it has not surpassed or even equalled the United States in its military power. The Kremlin's key lead is in the battle of the headlines, and there is no real chance it will overtake the Pentagon anywhere else. President Carter, Secretary of State Vance, and Secretary of Defense Brown all reiterated in 1980 the continuing superiority of the American armed forces,[15] a superiority confirmed by reliable scholars of the East-West arms balance.

To be sure, the Soviets are ahead in certain areas, in certain kinds of comparisons, but those leads are extremely deceptive. For instance, while the Soviets possess more troops and tanks than the Pentagon does, this fact is nothing new and of negligible significance militarily. First, a full quarter of their troops and tanks are in permanent deployment on the Chinese border, unavailable to fight U.S. or NATO forces.[16] Second, American tanks are far more lethal than those made in the U.S.S.R.[17] Third, the Kremlin's tanks are relatively easy prey for allied anti-tank weapons, which are both more numerous and more deadly than their Russian counterparts.[18] Fourth, the Soviets experience heavier troop turnover every year than the United States does.[19] Fifth, both American tanks and troops are expected to perform much better in wartime than those of the Soviet Union because they have a large and crucial edge in training and logistical support.[20] Sixth, the U.S. capacity to project men and materiel (including tanks) overseas is much greater than Soviet capacity to do so.[21] Seventh, it seems unlikely that any direct conflict between the superpowers will rely for long on troops and tanks; if escalation to nuclear war occurred as anticipated, numbers of troops and tanks would be irrelevant.

We are not aware of *any* such Soviet "advantage" which does not dissolve under similar analysis. Even recent headline-grabbing charges that the U.S. nuclear forces are now inferior to the Soviets' prove right in details but wrong in general. Though the United States trails in number of missile launchers, it holds a better than 50% advantage in deliverable warheads, due to its comprehensive deployment of MIRVs.[22] (As more than one U.S. arms expert has noted, it is warheads—not launch vehicles—that kill people.) Likewise, the Soviet lead in total missile payload represents no advantage in terms of strategic power; it actually represents a Soviet failure in miniaturizing missile components. Finally, while the average American nuclear warhead is comparatively small in its blast force (megatonnage), it is far more accurate than its Russian counterpart and thus far more likely to succeed in its deadly mission.[24] These and other factors amount to unquestionable overall superiority for the Pentagon's strategic forces. Those who see it otherwise are ill-informed or manipulating data to serve their own interests.

According to statistics compiled by former CIA official Dr. Ray Cline, the United States and its military allies are over two-and-a-half times as powerful as the Soviet Union and its client states.[25] That lead is not disappearing. America, the other NATO nations, and Japan are all committed to substantially increased military budgets and forces in the '80s. And the technological supremacy which furnishes much of the West's lead is impossible for Moscow to reverse in the foreseeable future. As the Pentagon's top man in research and engineering, Dr.

William Perry, testified in early 1980, "In fields which are of special importance to our military capability . . . we are more than five years ahead of the Soviets."[26]

What accounts, then, for the sudden rush of headlines warning of U.S. weakness and Soviet strength? By training and perhaps by nature, members of the military establishment are inclined to seek commanding margins of power in each and every conceivable aspect of a future war; they understand this as their job, their duty, their sacred trust. Twenty years ago, such tendencies led some military

officials to invent a missile gap to attract new funds from Congress. As Daniel Ellsberg reports, "Many people in the Air Force and the Pentagon were very proud of the missile gap hoax. They said there was no other way they could get enough tax money for the necessary weapons to maintain our superiority . . . ."[27]

In 1980, the Afghanistan invasion made the Pentagon's job easy. Congress, the media, and the public became extremely receptive to the military's well-practiced, well-presented pleas for increased funds, and the brass attempted, naturally, to make the most of this unusual leverage. Even CIA officials observed with irritation that the Pentagon was stretching some facts in ways that had "an element of politics to them, seeking to support . . . higher defense spending in face of the Soviet threat."[28]

The U.S. media eagerly picked up the Pentagon press releases, testimony, and intentional leaks,[29] producing an outpouring of pro-military publicity whose importance cannot be exaggerated. As Secretary Brown has said,

> . . . what has increased much more than Soviet strength is *perception* of the situation and a realization of the *trends.* The Soviets began 15 or 18 years ago well behind the U.S. in military capability. They have been steadily increasing in their efforts, and that has shown up in equipment, capabilities of equipment and numbers of forces.
>
> People have become aware that such a trend, *if continued indefinitely,* clearly would relegate the U.S. to an inferior position. [Italics added.][30]

Evidently lost on most Americans was this distinction between the fact that a long, slow build-up, "if continued indefinitely," could give the Soviet Union eventual military supremacy and the panicky perception that America is already "second rate" and will soon be swallowed up by the marauding Russian bear.

A Short History of a Long Race

To understand fully the U.S. power lead, we need to delve briefly into the history of the arms race, considering the development both of weapon systems and of the policies they reflect. The superpowers have come a long way from the day when the American bomb was *the* bomb and U.S. leaders held it as a trump card giving them unrivaled power to shape the world.

The effective beginning of the present arms race came in 1949, when the Soviet Union surprised U.S. military scientists with its first atomic weapon test. Moscow, uncomfortable under pressure of the United State's crude but already formidable nuclear strike force, had thrown enormous resources into atomic research and had successfully concluded that research sooner than expected. A critical shift thus occurred: until 1949, the Pentagon had been building its nuclear arsenal in a vacuum; now began its long, dangerous bout of intercontinental shadow-boxing with the Kremlin.

As President Truman threw the H-bomb program into high gear to offset the Soviet leap, he and his staff also hatched the doctrine of nuclear deterrence, which has captivated the public for over three decades. The Hiroshima and Nagasaki bombs had been portrayed from the first as means to prevent further needless deaths on both sides, and now this prevention theme came strongly to the fore. The Truman administration discarded the bomb as trump card and expressed its usefulness purely in defensive terms—as the weapon that provided sufficient threat to deter the Soviet Union from a nuclear attack on the United States.

This pure concept of nuclear deterrence, so clear, so readily grasped, seems to guarantee safety to any nation that can build enough warheads and delivery vehicles to inflict extreme punishment on enemy cities, populations, and industrial assets. But even in the '50s, technological developments cancelled any such

guarantees and muddied the clarity of deterrence doctrine forever. Though political and military leaders have continued to address the public in simple, outdated terms of "deterring our enemies," the United States' strategic doctrines and capabilities have come, through a maze of phraseologies and technologies, to represent far more than deterrence as originally advertised.

The Eisenhower era saw huge developments in the arsenals of both superpowers, but the bulk of power was so clearly America's that the administration confidently announced a "New Look" for the military, placing heavy emphasis and reliance on nuclear weapons. Though the Soviet Union was neck-and-neck with the United States in early ballistic missile research and followed closely in the development of the H-bomb, it was hardly in the running in terms of operable delivery systems. Despite frightening rumors of a powerful Russian bomber fleet, the Kremlin had no bombers to speak of. Certainly it had nothing to compare with the forces of the U.S. Strategic Air Command; by 1957, SAC had 2000 B-47 and B-52 jet bombers, global airfield facilities, and in-flight refueling capacity.[31] (Even today, the Pentagon has more B-52s in *mothballs* than the Kremlin has bombers in its entire long-range force.)[32]

Under these circumstances, the first slippage in the deterrence doctrine occurred: while publicly justifying the U.S. air build-up through a policy of "massive and unacceptable retaliation," U.S. leaders secretly laid plans for an all-out, first-strike nuclear attack as the "invariant and inevitable response" to *any* direct military confrontation with the Soviets.[33] The plans called for bombing every major Russian and Chinese city, as well as certain military targets—a key addition. Call it "deterrence-plus."

Meanwhile, hopelessly outclassed in bomber forces, the Soviet Union attempted to compensate by jumping ahead in satellite development. Though first in space, with Sputnik I (October, 1957), Russian scientists soon found that their advantage was illusory; the U.S. aerospace team orbitted its own first satellite within four months and then, thanks to a broader research and production base, swept on to a lasting lead, overwhelming the Soviets in area after area of military-related space launches. (See table.) The temporary appearance of a Soviet lead, coupled with a few money-saving bluffs from the lips of Mr. Khrushchev, actually played into the hands of the Pentagon brass, who cashed in on American fears by raising the missile gap cry.

THE U.S. LEAD IN MILITARY USES OF SPACE

Type of satellite	1st U.S. launch	1st Soviet launch
Photographic reconnaissance	February, 1959	April, 1962
Electronic reconnaissance	February, 1962	March, 1967
Early warning	February, 1960	May, 1967
Communication	December, 1958	August, 1964
Navigation	September, 1959	December, 1970
Meteorological	April, 1960	April, 1963
Geodetic	October, 1958	February, 1968

Data compiled from Stockholm International Peace Research Institute's *Outer Space: Battlefield of the Future?* (London, 1978). The table includes every class of military satellite except those of ocean surveillance and the so-called "hunter-killer." No date has been determined for first U.S. capacity in ocean surveillance. The Soviets have demonstrated the ability to hunt target satellites in certain low orbits; the United States has declined to develop a hunter-killer because other technologies now under consideration will prove more effective.

Coming to office in 1961, at the tail end of the supposed gap, John Kennedy undertook a complete re-examination of U.S. strategic policy with the aid of his Secretary of Defense, Robert McNamara, a high-powered corporate manager. In the course of the evaluation, the two men discovered the Eisenhower legacy of false estimates of Soviet power and the vast U.S. advantage in deliverable nuclear weapons, an advantage then on the order of ten-to-one.[34] Nevertheless, maintaining the secret, they opted in the fall of 1961 to deploy 1000 Minuteman ICBMs to supplement the 40 Atlas missiles already in place, the 100 more Atlas and Titan ICBMs coming along, and the Polaris ballistic missile subs just coming into service.

With Minuteman, the United States far exceeded the power required for a nuclear deterrent force or even for the Eisenhower policy we have called deterrence-plus. But the Soviet Union had proved successful enough in duplicating U.S. nuclear achievements that to halt Pentagon development and deployment of Minuteman and other systems would permit slow erosion of the commanding military advantage America had cherished since 1945. It was a decision Kennedy did not feel he could make.

Furthermore, advances in U.S. nuclear weapon technology indicated that the next lap in the arms race would do more than simply add warheads to the U.S. stockpile; it would also provide entirely new capacities, enhancing the fact as well as the image of American world power. Innovations in guidance and delivery systems had brought the prospect of such accuracy that most U.S. warheads could soon be dropping within 800 yards of bull's-eye, close enough then to destroy virtually any Soviet target.[35] And an even more devastating, multiple warhead was on the drawingboard.[36] By the time the Kremlin attained such features, the Pentagon would be on to a further advantage, with little to fear from Moscow; the deployment of the Polaris nuclear-armed subs and the construction of "hardened" silos for the Minuteman missiles already afforded U.S. strategic weapons a wide margin of "survivability" for the foreseeable future.[37]

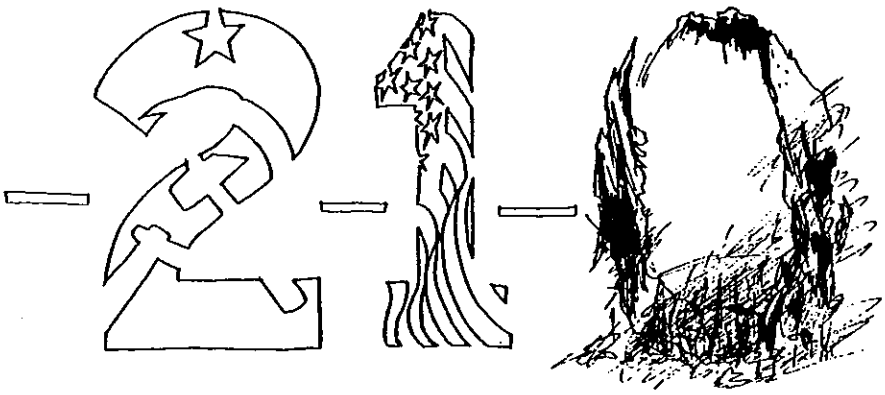
"Survivability" was one of many new words to enter the language in the early '60s. As McNamara sought to interpret and justify Pentagon actions to the world in June of 1962, he announced a policy of "damage limitation" and spoke of "counterforce" as well as "countervalue" targetting options.[38] In the event of a Soviet nuclear attack, said McNamara, the United States should have as its main objective the destruction of the Kremlin's remaining strategic weapons, not its cities and industry. By such a counter*force* retaliation, a secondary attack on U.S. sites would be prevented, and American damage would be limited. Counter*value* retaliation (on Soviet cities and industry) could then be made without additional hazard to the United States.

This complex concept might seem, at first, a logical and harmless extension of deterrence doctrine, but below its surface lie some strange and dangerous things. One remarkable aspect of McNamara's statements was the tacit admission that, despite the extensive U.S. "nuclear deterrent force," an undeterred nuclear attack was quite conceivable. A second novel point: McNamara was moving toward a kind of classical war-fighting between atomic forces instead of emphasizing the catastrophic potential of a single all-out exchange, as in the past. Third and most important, the switch from countervalue to counterforce targetting suggested a U.S. first-strike ability; if the Pentagon could knock out Soviet weapons in a retaliatory attack, it could do so in a surprise first strike.

Publicly, yet not explicitly, Kennedy and McNamara thus turned away from the early doctrine of nuclear deterrence. U.S. allies and enemies alike were caught off guard, unsure what Washington really intended now, and alarmed in varying

degrees. But in America it was a non-event. The media and the public largely overlooked the implications of McNamara's declarations and clung to the clear concept of the past, considering the new U.S. weapons mere "overkill." Though this term obscured more than it explained, it was scarcely evaluated, especially after the high drama of the Cuban Missile Crisis in October, 1962. The tide of Red fear rose again—again to the Pentagon's benefit.

During the '60s, U.S. and Soviet arms development unfolded quite as Kennedy and McNamara had envisioned. Serving into the Johnson presidency, McNamara quietly began to secure accuracy improvements and initiated a host of other projects which later produced the MIRV warhead, the Minuteman-3 missile, the B-1 bomber, the MX missile, and the Trident submarine. Except for the B-1, perhaps, these systems had (and continue to have) counterforce and first-strike significance, but McNamara managed to arrange research funding without much open discussion.



ARMS RACE COUNTDOWN

Things changed during the Nixon years, however. The President himself, Secretaries of Defense Melvin Laird and James Schlesinger, and others prominent in the administration all contributed to a steady trickle of veiled references to U.S. counterforce capacities. By 1980, the story was well enough known that Defense Secretary Brown could frankly confirm "nearly 20 years" of counterforce targetting and add that "U.S. nuclear forces have *always* been designed against military targets. . . ." [Italics added.][39] Yet when Jimmy Carter inked Presidential Directive 59 a few months later, he ignited a national controversy; many people had overlooked the previous indications of U.S. counterforce policy.

The first-strike aspect of the Pentagon's strategic planning has reached public attention fewer times but with sharp clarity. In 1975, Schlesinger admitted flatly that the United States reserved the option of a first-strike nuclear attack in order to curtail any military headway communists might make in Europe or Korea.[40] And in 1977, then-Secretary of Defense Donald Rumsfeld reported to Congress, "The most ambitious strategy dictates a first-strike capability against an enemy's strategic offensive forces which seeks to destroy as much of his megatonnage as possible before it can be brought into play." After such a counterforce first strike, Rumsfeld added, "An enemy's residual retaliation . . . would be blunted still further by a combination of active and passive defenses, including ASWs, ABMs, anti-

bomber defenses, civil defense, stockpiles of food and other essentials, and even the dispersal and hardening of essential industry."[41]

Though Rumsfeld did not specifically assert that the United States had or should embrace such a plan, his words made plain the long drift of Pentagon policy. Except for dispersal and hardening of essential industry, the elements of this "ambitious strategy" were already operational in the American military network or were in stages of development or production.

The past few years have brought new advances in U.S. strategic forces, namely in the Cruise missile, the MARV warhead program, and greatly refined ballistic missile defense technology.[42] But the major outlines of McNamara's strategic plans remain unaltered. The Trident sub is in the water, while the MX and B-1 wait in the wings. Secretary of Defense Brown, meanwhile, speaks of a "countervailing" strategy which is counterforce in new clothes, as he himself concedes.[43]

Strategic weapons progress has also brought the Soviets a measure of counterforce capacity, but as we concluded earlier, U.S. nuclear forces maintain an unquestionable overall superiority and will continue to do so. The new Russian weapons are unlikely even to overcome the defensive precautions taken during the Kennedy era and certainly cannot challenge more recent ones. Robert Aldridge, a veteran Lockheed engineer, assesses the current situation thus:

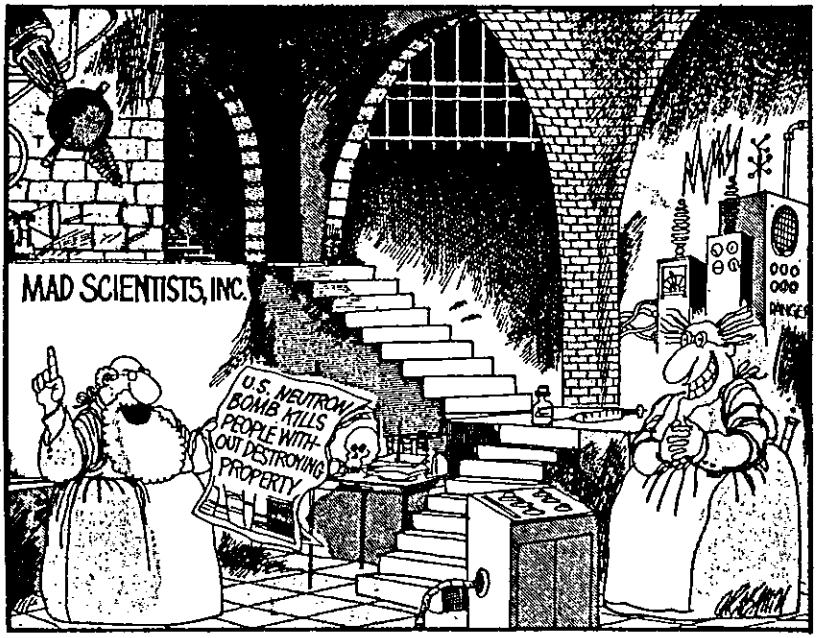
> I must reluctantly conclude from the evidence that the United States is ahead now and is rapidly approaching a first-strike capability— which it should achieve by the mid-1980s. The Soviet Union, meanwhile, seems to be struggling for a second best. There is no available evidence that the U.S.S.R. has the combined missile lethality, anti-submarine warfare potential, ballistic missile defense, or space warfare technology to attain a disabling first strike before the end of this century.[44]

Tactical Nuclear Weapons

McNamara and Company were responsible for an additional aspect of American nuclear weapon policy which we have not yet mentioned—the doctrine of "graded" or "flexible" response. This doctrine holds, in essence, that U.S. leaders should never be forced to escalate a conflict for lack of an appropriate weapon. In particular, it meant that no President would ever need to launch a strategic nuclear attack merely because the United States or its allies were losing a conventional war; instead, there would always be intermediate steps available.

Like damage limitation, this seems a reasonable and hazard-reducing strategy on the surface but holds enormous dangers. The graded response doctrine has brought us a legion of tactical nuclear weapons, including the neutron bomb,[45] and has actually *increased* the likelihood of an all-out nuclear exchange. Tactical arms create the illusion that a limited nuclear war can be fought, when in reality, despite much research, no one has *ever* discovered a way to use tactical weapons against a nuclear-armed enemy without the probability of pushing the war to the strategic plane.[46]

Top U.S. officers have publicly stated in the '80s that any conflict with the Soviet Union will—must be—global in scope.[47] They are talking about conventional war, but even on this level, combat between the superpowers would be tremendously hot and uncontainable. If a purely conventional conflict broke out in Europe between NATO and Warsaw Pact forces, the Pentagon would expect over 83,000 U.S. casualties per week,[48] almost twice as many as we lost in the entire Vietnam War. Soviet casualties would be at least as high, and for both sides, replacement of troops and supplies would be impossible. In these circum-



Robert Graysmith in *The San Francisco Chronicle.*

"Now we can destroy the world without destroying the world!"

stances, as one power attempted to gain or reverse an advantage, tactical weapons would inevitably come into play. With all the world watching the outcome, neither Moscow nor Washington would want to back down, and quickly the situation would spiral out of control. Sooner or later, probably sooner, NATO forces would unleash tactical weapons on Warsaw Pact back-up systems inside Soviet borders, or NATO back-ups in England or the Netherlands would be hit. From that point, we can expect the worst. Morton Halperin, former Deputy Assistant Secretary of Defense, summarized the U.S. position starkly: "The NATO doctrine is that we will fight with conventional forces until we are losing, then we fight with tactical nuclear weapons until we are losing, and then we will blow up the world."[49] If the Soviet outlook is the same, there is little hope once a war between the superpowers gets started.

Will the Lid Blow?

Given the present world dangers discussed at the beginning of this chapter, the chances of a military confrontation between the superpowers in the next ten years are great. Most observers agree that odds are poor for combat in the much-discussed European theater, but the end results will be similar wherever the confrontation occurs. The most likely settings are in the Third World, where the United States and the Soviet Union could clash suddenly over questions of resources or influence; in the wake of the Afghanistan invasion, for instance, Pentagon officials were predicting just such a clash in the Persian Gulf and suggested that use of tactical nuclear arms might be America's necessary response—despite the fact that it would probably lead to "catastrophic atomic war."[50]

Potential for nuclear war exists, however, even without a preliminary skirmish in Europe or the Third World. Why? As U.S. strategic forces approach knock-out first-strike capacity, the Kremlin must operate increasingly fast in order to protect its own weapons. If it perceived a threat, like a jittery gunslinger of the old West, Moscow might fire now and ask questions later. President Carter has acknowledged that "Soviet leaders, concerned that war was imminent, and fearing for the survivability of their ICBMs if the United States struck first... might perceive pressures to strike first themselves."[51] Recent U.S. "false alarms" make it clear that the American command feels itself under similar pressure.[52]

What this means is that world safety is increasingly jeopardized by flukes like computer systems failures, air identification errors, and unexplained radar phenomena. Even the United States now allows only ten minutes between threat detection and missile launch,[53] and this reaction time will continue to shrink with new weapons and new deployments. As it shrinks, computers will make more and more of the launch decision; already Pentagon computer specialists are developing "machine intelligence" to eliminate time-consuming "Human limitations in formulating and communicating commands...."[54] The trend seems to be toward a "launch on warning" system which would involve no human input whatsoever.[55] As we near such hair-trigger launch status, the slightest appearance of a threat could instantly produce nuclear disaster.

A final route to holocaust will open if the Pentagon brass feel they have achieved the capacity for an unanswerable first strike and should undertake that strike to put an end to the "Red menace." That possibility is hard for most of us to take seriously at first, but if we remember that our presidents and their military advisors have demonstrated a consistent willingness to develop enormous weapon systems without our consent or awareness, then we must admit that they might also choose to employ those systems without our consent or awareness—as they employed the bomb at Hiroshima and Nagasaki. The rationale: a knock-out attack on the Soviet Union could hardly be okayed by Congress without the Kremlin taking note; through a secret strike, the United States could reclaim the trump card and exercise unconstrained influence on world affairs.

Whatever the source of nuclear conflagration, the nature and extent of the superpowers' weaponry presents unimaginably bleak prospects for life on Earth. Even in a U.S. first strike, some Soviet retaliation would leak through. Within an hour, an atomic exchange would leave hundreds of millions of people dead. Instantly dead: vaporized by nearby explosions, killed immediately by immense silent flashes of extreme heat spreading at lightning speed from blast centers, crushed in the wreckage dropped around them by the blast wave and by 100–200 mph winds, burned alive in massive secondary fires, or suffocated in fall-out shelters as the fires drew all available oxygen into the inferno. In a full-scale exchange, warheads would find targets not only in U.S. and Soviet turf but also in Germany, France, Britain, Holland, Spain, Italy, Turkey, Israel, South Yemen, Egypt, Vietnam, the Philippines, China, Korea, Japan, Brazil, Cuba, Canada, Greenland, and Norway, among others.

Many survivors of the war would not survive long. Anyone with serious burns would die for lack of intensive care facilities and attention. Even relatively minor wounds soon would take hundreds of thousands of lives because medical help was unavailable. And as tons of what used to be buildings, earth, vegetation, and tissue drifted downwind from bomb sites in the form of radioactive ash, millions would contract radiation sickness and die from two to ten days later. Since radiation exposure reduces human resistance to infection, even common diseases would add many, many fatalities.

'GREAT NEWS! WE'VE INFLICTED UNACCEPTABLE DAMAGE ON THE OTHER SIDE.'

Those who survived the first weeks, thanks to their youth and good health and habitation far from target areas, would have a hellish life ahead. Erosion and flooding would come with the first rains wherever fires had been serious. Radioactive contamination of air, sea, and land; of crops, livestock, and grazing land; of food supplies and water—all pose grave threats. So do epidemics that breed in the

THE EFFECTS OF RADIATION POISONING

Whether by nuclear war or accidental industrial exposure, acute radiation poisoning is composed of three syndromes. Extremely high doses of whole body ionizing radiation cause death by a cerebral-central nervous system syndrome within 36 hours of exposure. A lower dose exposure leads to vomiting and diarrhea which, if not treated by aggressive intensive care and bodily fluid replacement, is fatal in three to nine days. Survival of the gastro-intestinal syndrome is then followed by a third syndrome which affects the blood, lymph, and bone marrow. Within days, as new cell production is suppressed, there is a decrease in infection-fighting white blood cells and platelets needed to prevent bleeding. Without proper support, prognosis is poor and death may occur due to infection or bleeding.

In addition, moderate to mild exposure has grave health effects. Within a few years, Japanese exposed to the American atomic bombs began to experience an increased occurrence of leukemia and solid tumor cancers of the breast, lung, and thyroid. Acute leukemia rates of near epidemic proportions were especially high in exposed children under ten years and adults over 50 years of age. The lag period between exposure and the occurrence of radiation-related cancers varied according to the type of radiation exposure and the type of cancer. The rise in leukemia in children was noticed five to ten years after the explosions. In adults there was an increase in leukemia and solid tumor cancers ten to twenty years after exposure. Congenital brain atrophy and subsequent mental retardation were among the non-cancerous disease effects diagnosed in children who were exposed to atomic bomb radiation while in their mothers' wombs.

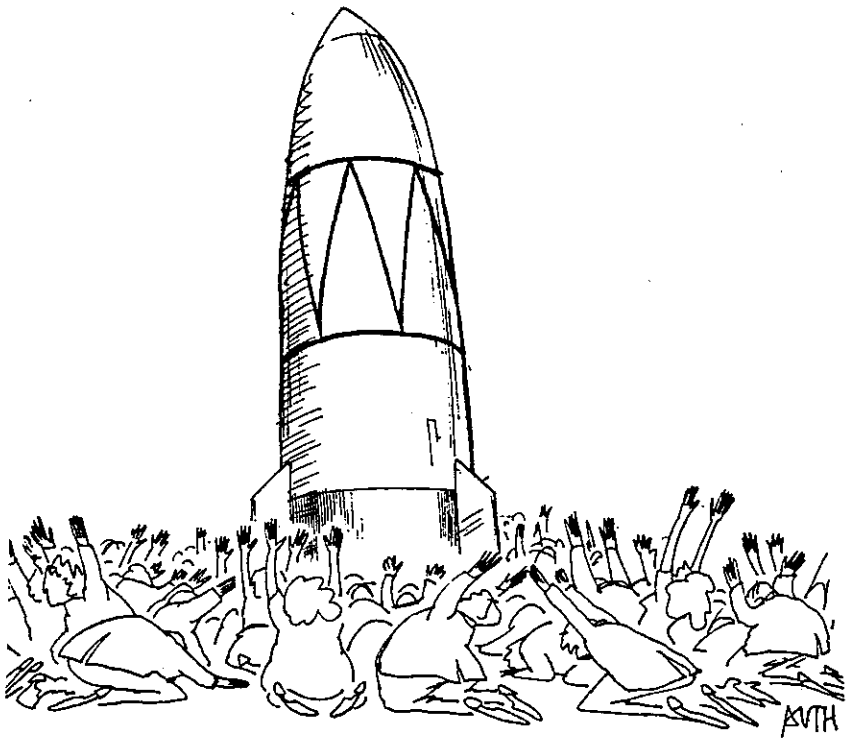
carnage of war. And the longterm effects of radiation exposure—cancers, leukemia, birth defects—would bring renewed grief for generations. Severe stress, depression, and disorientation would bring mental health problems as well, including derangement and suicide.

The land and people of the southern hemisphere, while escaping most direct damage, would catch heavy fallout as it dispersed through the air and seas. Inhabitants of Africa and South America, like everyone else, would suffer from unpredictable environmental effects such as depletion of the ozone layer and climatic changes.[56] The comprehensive disruption of world economic functions and the contamination of sea life and other potential foods would also be theirs to share. We cannot even begin to catalogue the likely losses among the flora and fauna.

As Khrushchev once said, after such a war the living will envy the dead.

The False Hope of Arms Control

In light of all the greater and lesser evils of the arms race, one wonders why it has been allowed to continue. No one knows exactly, of course, but the primary reasons seem clear. One is greed—the profit drive of arms merchants and the hankering of developed countries for "interests" overseas. National politics is another, for few things stir and unify a populace so well as strong words about an enemy threat; East or West, no politician survives long who is "soft" on the enemy. A third ingredient is international politics, since a favorable military balance provides a strong "effect on the perceptions and *induced behavior* of

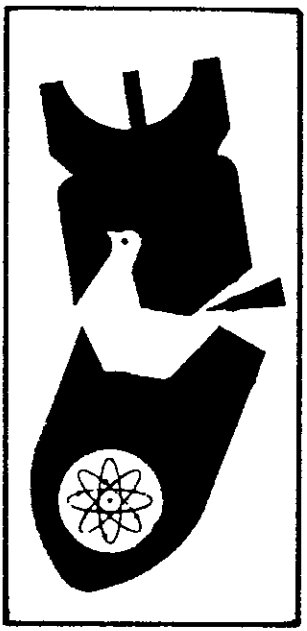


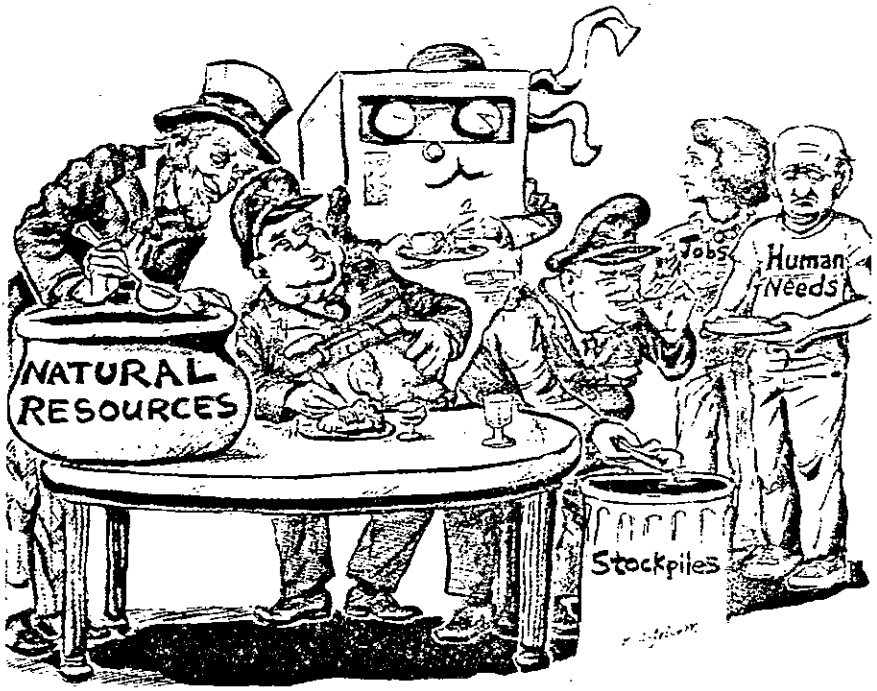
other actors on the world stage." [Italics added.][57] Mixed with these factors are poor but widely held assumptions that peace can be achieved through war or threats of war, that being "number one" is invariably desirable, that increased arms budgets always equal increased security, that amassing new weapons as "bargaining chips" will help turn the arms race around. Finally, many of us are swept into arms enthusiasm due to free-floating anxiety and a need to understand our complex world in simple hero-villain terms.

A lot of attempts have been made to cut the race short, beginning with several by Albert Einstein and other scientists associated with production of the first A-bomb. U.S. presidents from Truman to Carter have spoken forcefully of the dangers we face if the arms race cannot be reversed. And since Hiroshima and Nagasaki, thousands of intergovernmental meetings have been convened to discuss arms control or disarmament.

Yet unenlightened self-interest prevails at the negotiating table. One may point to examples like the Strategic Arms Limitation Talks (SALT) as successful negotiations, but in the troubled realms of arms control, even the successes are failures. In the case of SALT and every other agreement on record, the Soviet Union, the United States, and other nations have merely agreed to ban or limit what they already believed was neither feasible nor useful in efforts to advance their military position. These negotiations have not slowed the arms race even for a moment.

Just as the arms race adds new weapons to the superpowers' nuclear stockpiles, so it is the arms race which is, in a real sense, the greatest enemy of humanity. It must be not controlled but reversed. And since the governments seem unable to disarm themselves, it is up to the public to disarm the governments. Sharing the danger, so we shall share the solution.




NATURAL RESOURCES
Jobs
Human Needs
Stockpiles

Many people fear or oppose disarmament proposals for basic economic reasons, particularly in Hawaii. "We can't afford to lose military dollars." In fact, we have found that, both locally and nationally, the costs of an oversized military far exceed any economic blessings. Furthermore, there is a practical alternative to our war economy: economic conversion.

WHAT THE MILITARY COSTS YOU

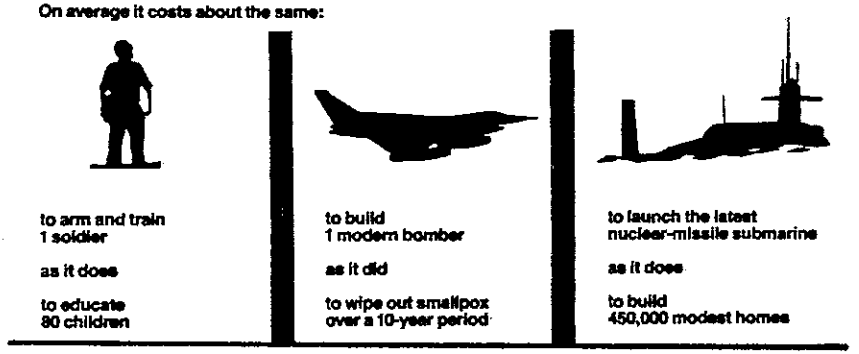
Since 1945 the United States has spent more than two trillion dollars in the diverse, vaguely defined area of "national defense."[1] Since President Eisenhower first identified the "military-industrial sector," the demands of this government sector have taken approximately 65% of the average American family's taxes.[2] And now the 1980's have begun with talk of "strengthening our military muscle," an escalation of the arms race and a new Cold War. That means still more for the Pentagon, in a time when the U.S. economy is haunted by the lengthening shadows of inflation and recession, when the fears of soaring fuel costs and job layoffs are the prevalent worries of our everyday lives. It is critical that we understand how channeling so much of our taxes, heavy industry and scientific research to the Pentagon affects our national economy, Hawaii's economy, and therefore our bank statements and pocketbooks. In this chapter we will examine what the military costs you as a U.S. citizen and a resident of Hawaii—not just in dollars and cents, but in economic, social, and environmental terms as well.

The National Military Budget: Every Citizen's Cost

In recent years, as the economy has become a growing concern, a number of populist movements have risen against Big Government, Congressional irresponsibility, and wastes of the taxpayer's money. California's Proposition 13, the call for an amendment to balance the Federal budget each year, and the rise of the Libertarian Party are all movements to curb wasteful spending and inefficiency in State and Federal budgeting. Curiously, though, these populist "tea parties" shy away from attacking the king of uncontrolled government spending: the U.S. military.

In fiscal year 1979, politicians everywhere took up the cry of "fiscal restraint" and "responsible government." The number of public service jobs was cut; health services were reduced and proposals for hospital cost control and national health insurance were gunned down; milk for school lunches, low-income housing programs, and rural development grants were each slashed—all by our newly restrained President and Congress.

Meanwhile, back at the War Department . . . the military budget was increased by 3% over inflation to $130 billion, which was 56% of the entire budget controlled by Congress that year. With the Soviet invasion of Afghanistan the revised 1980 budget has skyrocketed to over $143 billion, with planned bonuses totalling $100 billion for the Pentagon coffers by 1985.[3]



Raw figures alone cannot convey the lavishness and magnitude of this military budget, so consider a few comparisons. (See chart.) The $100 billion bonuses alone are more than the combined annual budgets of the departments of State, Agriculture, Commerce and the Interior! The real tragedy of these figures, however, lies in how our tax dollars are used and abused by the Pentagon under the guise of "national defense."

Much of the recent budget increases have gone into the expansion of the U.S. nuclear arsenal. General David Jones, Chairman of the Joint Chiefs of Staff, announced in 1979 that spending increases would come "particularly in the area of strategic nuclear forces."[4] Increasing portions of the "defense" budget have been earmarked for such controversial first-strike programs as the MX missile and Trident submarine. Less obvious are the increasing funds for the development and production of nuclear warheads, which have been buried in the Department of Energy budget (one-third of the department's allotment).[5] While our energy problems mount, the Energy Department has initiated a $500 million "Weapons Complex Restoration Initiative" to improve the production methods of nuclear bombs. In sum, funding for nuclear weapons increased 19% in 1980 alone, confirming Jones' prediction.[6]

AN EXAMPLE OF COST PLUS CONTRACTS

Most contracts for military hardware are let on a *cost plus* basis, instead of a competitive bid. For example, instead of taking the lowest bid for a particular product, say, a new series of tanks, the Pentagon will simply guarantee Corporation A a ten percent profit on costs for each tank it supplies. If the company makes every effort to cut costs and increase productivity, it may be able to produce tanks for $500,000 each. Corporation A will make a profit of $50,000 per tank. If on the other hand it builds new laboratories, adds elaborate equipment, pays higher salaries to its managers and encourages inefficient production practices, its cost per tank may rise to $750,000. Here Corporation A will be making a $75,000 profit per tank! Thus the greater the costs of production, the higher the company's profits . . . and the greater the taxpayer's bill.

(Adapted from Bruce Birchard, "Human Security or National Defense: the Question of Conversion," *Journal of Sociology and Social Welfare*, vol. 4, Jan.–Mar. 1977, pp. 548–9.)

As regards inefficient government spending, the military is one of the prime offenders. One reason for this is that programs such as the B-1 bomber, neutron bomb or ABM system are hastily (and often secretly) initiated and then, upon public disclosure or government scrutiny, cancelled at great expense. A more serious cause of wasteful spending is the *Cost Plus* basis of most military contracts, which actually provides an incentive for a firm to maximize the cost of a military project! (See box.)

Several studies indicate that U.S. military outlays are in no way compatible with the actual defense needs of the country or what the Pentagon terms "vital security interests." The Boston Study Group has made an exhaustive study of the 1978 military budget, and proposed a 40% decrease in defense expenditures within five years which would not even alter the nation's current military posture.[7] Other proposals range from cuts of ten percent to upwards of 70%, depending on definitions of the nation's "defense needs." Whatever the correct figure, there is little doubt that the military's portion of the pie has become what one magazine termed "a politico-economic phenomenon, difficult to explain on purely military grounds. ... In real spending, total or per capita, the military budget has not experienced any significant decline for 30 years."[8] To increase this budget frivolously without examining the real uses of defense dollars is an irresponsible usage of tax revenues—and an immoral one, to many minds.

Dollars versus Rubles

Two popular arguments defend the recent increases in military spending. The first refers to the Soviet Union's military capabilities and stresses how much more "they" are spending than "we" are. There are many replies to such a fear, such as the ones discussed in the previous chapter. But in this case there is also a direct economic rebuttal. The contention that the Soviet Union is outspending the United States in armaments is based primarily on a highly questionable CIA survey from the mid-'70s. The survey estimated Soviet forces by attempting to calculate how much it would cost the United States to duplicate those forces. This method contains the following errors and omissions:

1. The CIA computed the Soviet army payroll, a large portion of any nation's military budget, as if their soldiers were being paid on America's much higher volunteer army wage scales. Furthermore, according to the CIA's own reports U.S. armed forces spend more than twice as much per soldier on military operating costs as do the Soviet armed forces. In sum, each American soldier costs its nation more than each Soviet soldier, a fact ignored by the CIA survey.[9]

2. The miscalculation of Soviet army wages becomes all the more significant because of differences between U.S. and U.S.S.R. military circumstances. America faces no threat of land attack from its two borders and maintains a relatively small standing army as a consequence. Russia, on the other hand, is eyeball-to-eyeball with China over the world's longest continuous border, and has other potentially threatening nations on its vast land borders as well. It maintains a large standing army for this reason. When the error in wage estimates and cost per soldier is added to this difference in troop numbers, the reason the CIA found the Soviet Union outstripping U.S. expenditures becomes clear.

3. It costs the United States much less to develop military equipment and weapons than it costs the U.S.S.R. to produce similar hardware. Because of a more inefficient industrial base, the U.S.S.R. must heavily subsidize its military industries, as it must in most civilian industries, to meet "world quality standards." Thus the Soviets pay more, in dollars or rubles, for the same technology.[10]

4. The CIA study considered only the two superpowers. A broader study has shown that the NATO allies have consistently outspent the nations of the Warsaw Pact in the '70s—even without accounting for the above errors. In 1979, NATO expenditures were estimated at $212 billion, compared with $175 billion by the Warsaw Pact.[11]

Finally, a comparison between nations' military might should never be based

on economics alone; the bottom line is the "bang," not the "buck." Arguments of a "dollar gap" between two very different countries, based on exaggerated figures, are simplistic, misleading, and possibly as much of a hoax as the "missile gap" of the '60s.

The Hidden Costs of Military Spending

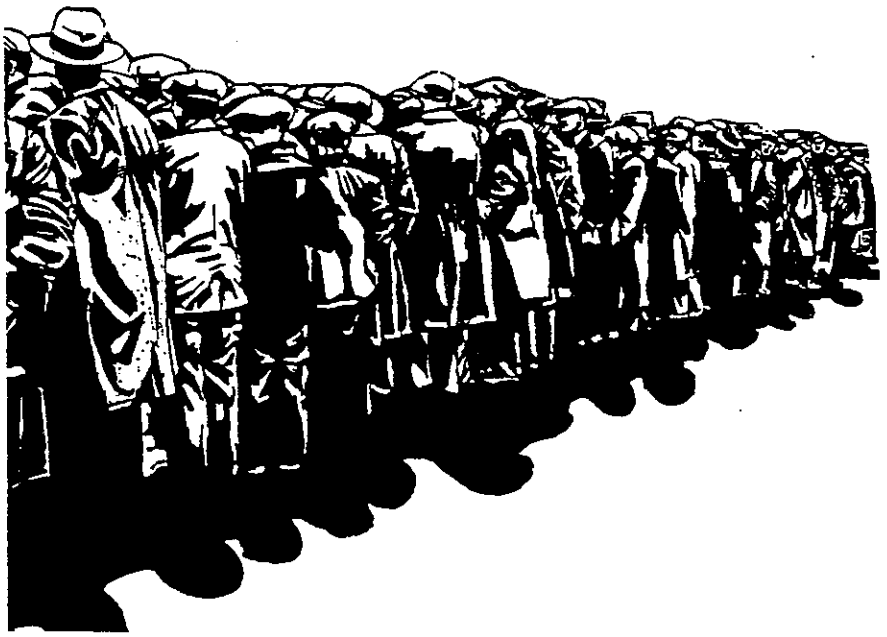
The second popular argument for military expansion is that it is good for the economy, a belief carried over from World War II. What may have been true then has not proved true since. Today this argument flies in the face of the financial facts; our massive commitment to military armament not only burdens the taxpayer unnecessarily and reduces social services each year, but is also a primary cause of unemployment, inflation, and declining productivity—the major ills of the U.S. economy today. The economic and social costs of military spending are not as easily grasped as the direct dollar totals cited earlier, but ultimately they are even more important to recognize.

Before we examine these disastrous effects of a permanent wartime economy individually, we need to understand the basic economic term *opportunity cost.* The opportunity cost of a program is the value of goods and services that *could* have been realized through the money and the resources used in the program. For example, the opportunity cost of building a new row of houses would equal the cost of the houses plus the cost of not using the land and construction materials for other purposes. In Mililani Town, for instance, this new row of houses' opportunity cost would include the cost of destroying prime agricultural land, decreasing agricultural output, and reducing related jobs. Opportunity cost never appears on balance sheets, but it is an essential tool in the economic analysis of industrial production or social services.

1. Unemployment. One of the great myths of arms spending is that it stimulates employment. Today corporations, federal agencies, unions, politicians, and economists accept that military spending in fact increases *un*employment.

Using the principle of opportunity cost, the Federal Bureau of Labor Statistics has showed that, while $1 billion spent in key military sectors created 45,800 new jobs, the same money spent in any other government sector would create substantially more jobs: 132,000 new public service employees, 100,000 new schoolteachers, 58,000 mass construction workers, and so on. And simply cutting our taxes by $1 billion would create 32% more jobs nationwide than forking that money over to the Pentagon! On average, every billion dollars now spent by the military would create 14,000 more jobs if it remained in taxpayers' hands, or 30,000 more jobs in other government agencies.[12]

Additional studies confirm this finding. Marion Anderson's book *The Empty Pork Barrel* demonstrated that, in the years 1968–72, every major industrial state except California and Texas *lost* more jobs than it gained each time the military



budget was increased nationally.[13] And the Department of Commerce proposed that a 30% decrease in the military budget (such as the wastetrimming figure mentioned earlier) would reduce national unemployment by more than 2%, through the creation of almost 2 million new jobs![14]

Why is arms spending so poor at providing jobs? First, the military-industrial complex is very *capital-intensive:* it requires a lot of raw materials and sophisticated machinery but very little human labor. Secondly, military spending does not return to the economy a product which creates further jobs or benefits. A new fishing boat or city bus would create spin-off jobs and benefits; the only thing an ICBM or Trident submarine might ever "create" is a holocaust.

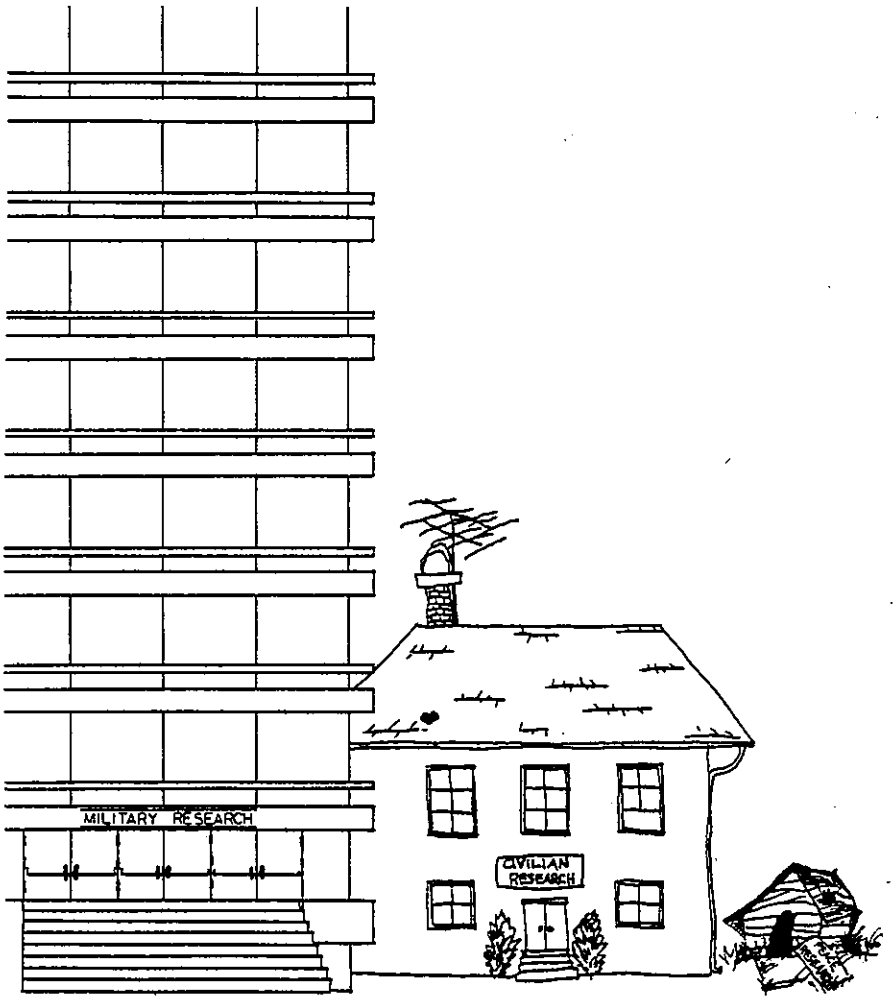
2. Inflation. Because military goods fail to create social benefits, they are termed *economically useless:* they neither contribute to our present standard of living (as clothing, food or other consumption goods do) nor increase the economy's capacity to produce more goods for consumption in the future, as the fishing boat would. Tanks, missiles, and subs cannot be bought or used by the public. However, military products are *economically depleting:* they use up labor, capital, and natural resources, drawing these away from consumable goods or services.

This pattern helps explain the soaring inflation that is wracking the country today. As money is pumped into creating these *useless* products the supply of consumable goods and services must decline, which pushes their price up. And we all know only too well what happens when a high consumer demand meets a low supply of goods. In this way, the entire military-industrial sector acts as a perpetual inflation machine.

Since military expenditures comprise so large a portion of the federal budget, they bear most of the burden for the increasing national debt. Both the government and military contractors must borrow money in the open market to finance and supply exorbitant Pentagon demands. An estimated two-thirds of the 1980 national debt was incurred through military spending.[15] This has resulted in a rise in the money stock, prompting increases in the wholesale price index and bank interest rates for all of us. No doubt about it: military spending is one of the leading causes of high prices and high interest rates.

3. Declining Productivity. Since the beginning of the industrial age, technological progress in any country has resulted largely from taking engineers and scientists, providing them with proper funding of equipment and facilities, and setting them to search for solutions to particular technological problems. The technological progress of a nation is determined by the kind of research being done. Since the Second World War, between one-third and one-half of U.S. engineers and scientists have devoted their skills exclusively to military-related research and development.[16] And they did not need to be drafted: the salaries, grants, and prestige are all higher in the military sector than in the civilian. Consequently, there has been an extraordinary boom in military technology in this country . . . and retardation and failure in the progress of our civilian technology. Such dyed-in-the-wool American industries as steel, shipbuilding, and railroads have become technologically primitive.

Civilian technology is directly related to productivity: the output of goods and services from a given quantity of resources. As machinery design and manufacture become more efficient, productivity rises, often offsetting the rising costs of labor and materials per unit of production. But as the Pentagon offered higher incentives and lavish budgets to scientists, the proportion of U.S. resources devoted to civilian research and development has declined, and U.S. productivity improvement has slowed. Between 1965 and 1975 we had one of the lowest



average annual growth rates among major industrial countries.[17] U.S. manufacturers now cannot compete with foreign industries, and the United States is pricing itself out of foreign and domestic markets. Today we are a nation still far ahead of the Soviet Union and the rest of the world in the sophistication of our military hardware, computers, detection systems, and nuclear stockpiles . . . and the nation with the second lowest annual productivity increase in the industrial West. Guns, but no butter.

The Military Sector in Hawaii's Economy

The impact of the military budget on the national economy is felt throughout the country—in Hawaii as much as anywhere else. But the overwhelming presence of the armed forces in our state, as outlined in the first chapter, has unique

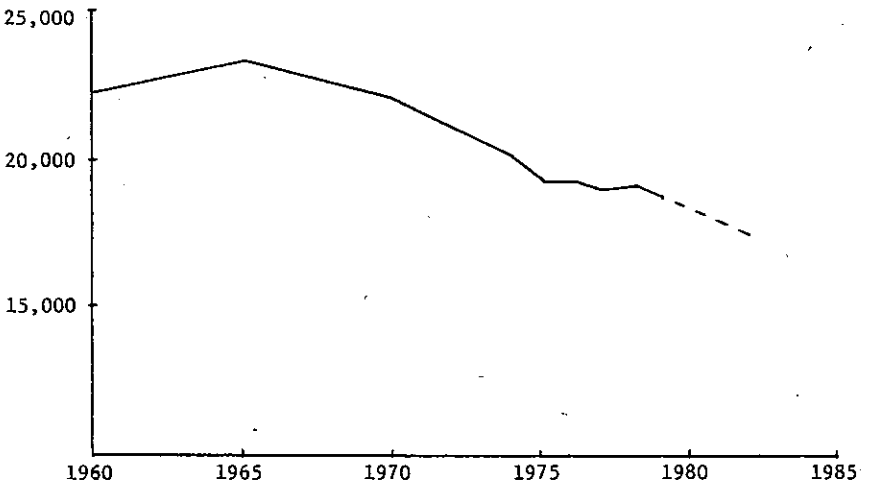
and major effects on the Islands' economy and development. In 1978, total military expenditures in the state (everything from construction contracts to purchases by personnel) amounted to an estimated $1.155 billion. This direct income was exceeded only by that generated in the visitor industry.[18]

It has long been taken for granted that massive Pentagon expenditures are a great asset to Hawaii's development. A closer examination of the economic facts, however, indicates that Hawaii's military is not necessarily a healthy force in the economy of the Aloha State. As in the previous examination of national military spending and growth, there are numerous opportunity costs to the residents of Hawaii that never appear on balance sheets.

Jobs and Revenues. The popular belief that the military "dominates" Hawaii's employment figures has been challenged. A 1972 Bank of Hawaii report concluded that only 6% of the state's civilian workforce was dependent on the Armed Forces for their jobs.[19] The amount of indirect employment generated by military contracts is more difficult to gauge, but there are indicators that the impact of military dollars on the State as a whole is neither widespread nor dominant.[20] The Department of Commerce found that only 7.6% of personal income derived from military expenditures in the state. And a 1972 study concluded that 5% of the companies in Hawaii received 62% of all military contracts, with the profits derived from at least one-third of all military spending concentrated in "a small elite of corporations"—companies too large to be called dependent on military dollars.[21]

The inefficiency of military expenditures in generating jobs is found in Hawaii's Bureau of Labor statistics, just as in the national figures. A comparative view shows that between 1960 and 1970, military, tourist, and state government expenditures were all roughly equal; while total state employment during that period

CIVILIAN JOBS IN HAWAII PROVIDED BY THE MILITARY (1960-1979)

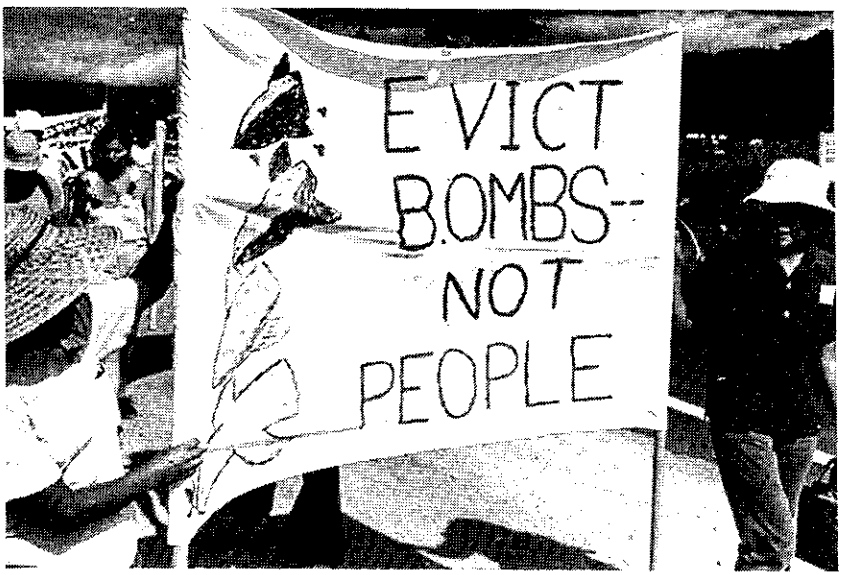


Statistics compiled by the Department of Labor and Industrial Relations, State of Hawaii.

jumped 32%, civilian employment by the military only increased 5%. Since 1970, Pentagon expenditures in the state have been increasing at a steady rate of 9.1% per annum above inflation (due largely to increasing Volunteer Army wage-scales), while the number of civilian jobs provided by the military has been *decreasing* steadily, by an average of 481 jobs per year! This is no statistical fluke: the number of civilian jobs in the armed forces began shrinking in 1965 and continued to shrink right through the Vietnam War.[22]

Hawaii is no less vulnerable to the "underemployment" cost of military dollars than the rest of the nation; almost any other usage of equivalent federal funds in Hawaii would create many more jobs, in such crucial areas as medical services, education, and low-income housing construction. Furthermore, the quality of military expenditures must be considered. Decisions on military expenditures are made in Washington, often leaving Hawaii's economy "hostage" to Pentagon policies. One Honolulu newspaper noted that the military's economic impact on the state has traditionally been "up and down, unsteady."[23] In sum, however large the effects of military expenditures on the state economy and employment picture, two points are clear: military dollars increase our dependence on strategic and economic decisions made in Washington, and are a weak and weakening source of direct employment for Hawaii's civilians.

Land. Since the military first began purchasing land in the Pearl Harbor area in 1901 (evicting local residents and closing prized fishing sites), it has essentially retained the privilege of a *moku,* a huge parcel of land bestowed by the king or governor as a gift. The 25% of Oahu's land controlled by the armed forces includes at least 15% of the island's finest beaches, land originally designated for Hawaiian homesteads, and a large portion of the flatland between the Waianae and Koolau ranges needed for housing and diversified agriculture.[24] Much of this land is granted free of charge or at a token fee by the state or private estates, providing neither the state nor taxpayers with revenue. For example, 1400 acres in Waianae have been donated by the state for infantry training, 3600 acres of Schofield



Barracks is "leased" free of charge and indefinitely by the Army, and on the Big Island 18,600 acres at Kawailoa is leased at less than one dollar per acre per year from Castle and Cooke.[25] And since the two major land uses by the military are bomb storage and infantry training, the leases generate few, if any, jobs for the state.

Since 20% of military personnel and their dependents live off-base on Oahu,[26] they contribute as well to the high demand for and shortage of housing. The opportunity costs here are significant: the loss of housing, agriculture, tax revenues and land leases, as well as the economic effects of overcrowding on the rest of the island are all costs Hawaii's people must bear.

Other Costs. Statistics and raw figures can never gauge the total social and economic impact of the military sector in Hawaii. For example, figures show that PX's, on-base retail exchange for military personnel and dependents, employ 1700 civilian at 88 different outlets in the state. But statistics fail to indicate the revenues lost because the federally controlled exchanges neither pay state taxes nor charge the 4% excise tax on products, and statistics neglect to show that the exchanges hold retail prices down through federal subsidies, thus competing unfairly with civilian retailers in the same area.[27]

And beyond the realm of current economic analysis are the costs imposed by the military on Hawaii's environment and society. In occupying and dredging Pearl Harbor, the Navy destroyed fishing ponds and prime fishing around the mouth of the harbor entrance. With the disclosure of the radioactive waste dumped in the harbor area, as discussed earlier, the effects on marine life and water quality become far more serious. Similarly, the cases of Kaho'olawe and West Loch, and other ordnance storage or training sites, raise the issue of outright destruction or potential contamination of our environment through military weapons and their storage.

The military's use of natural resources in Hawaii needs to be assessed. For example, one of the most serious problems Oahu faces in the future is a shortage of fresh water. In 1980 the Honolulu Board of Water supply was limited to 77 million gallons a day, while the Army and Navy alone took 27 million gallons daily.[28]

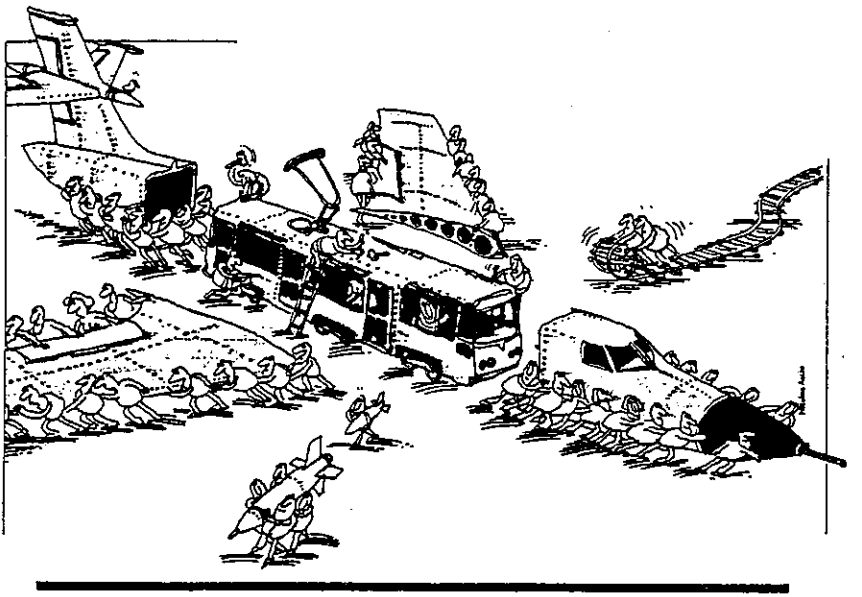
Fuel presents another problem; when gas and oil shortages threaten us regularly, a comprehensive study is needed of the military's consumption of fuel—both locally and nationally. These are all costs which must be considered in any accurate assessment of the military's impact on life in the Islands.

AN ECONOMIC PROPOSAL: CONVERSION PLANNING

While our research indicates that the military's presence in Hawaii is not as "strong" economically as perhaps most people believe, there are many fears in a community like Honolulu over the prospect of large cuts in the Pentagon's budget. There is no question that our local economy would have to confront great changes in a transition from dependence on the military. But the evidence to date shows that, with adjustment programs and industrial conversion, the movement away from a military-dependent economy can be an economic blessing in even the most densely militarized communities.

Economic Adjustment

To avert the serious effects of military realignments and personnel reductions across the United States, the Pentagon itself initiated an Economic Project in the early '60s. A comprehensive survey of 61 communities involved in the project from 1961–1973 revealed that the transition from military-dependent to independent



economies were remarkably successful: *twice as many jobs* were created to offset the civilian jobs lost by military reductions, and often they were created in areas vital to the community or region. More than half of the abandoned bases in the study were converted into college or vocational training institutes. And, at the time of the survey, none of the projects was judged to require further assistance or funds. The major efforts of the project were to organize *local* businesses and organizations to plan the use of base facilities for a wide range of human needs: airports, hospitals, schools, parks, and housing. Aside from physical conversion, measures were taken to "ensure a more diversified and growing local economy" through new businesses and tax incentives.[29]

Here is a specific example of what can happen when military bases are phased out. In 1970 an Army camp and an Air Force base were closed in Meosho, Missouri, at an estimated loss of 1200 civilian jobs. Planning for adjustment began two years before the closures, and by 1975 the project had created 2,224 new jobs on and off base to more than compensate for those lost. The Air Force facilities became a civilian commercial airport, the Army facilities became a community college for 1600 students, new industrial plants were established on the bases, and much of the former military land became a state park with recreational facilities. Clearly the redistribution of our tax dollars in such a case provided community benefits well beyond a simple increase in job opportunities.[30]

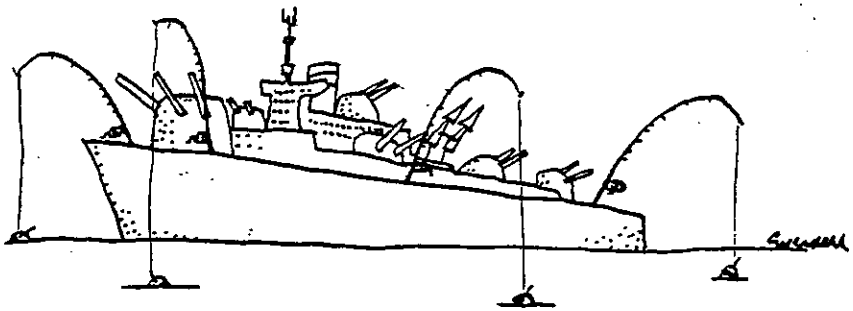
To the people of Hawaii, these Adjustment Plan statistics show the promise and potential of careful conversion planning to meet the economic needs we would feel following a military reduction. Wheeler AFB, or one of the other air bases on Oahu, would be ideal for conversion, in the pattern of the mainland projects, and the community surrounding the base would benefit from new jobs. Similarly, existing base facilities in Central Oahu could provide the rapidly growing population of that area with hospital, educational or recreational facilities, and

perhaps even new agriculture or industrial parks. An example of successful local conversion would be the acres of Fort DeRussy in Waikiki, which have been converted into a beach park for the public.

The key to any conversion proposals for Oahu is *land:* we need more land for low-cost housing, new parks and beaches to alleviate overcrowding at existing recreational areas, and new acreage for the expansion of diversified agriculture and pond aquaculture. Nothing could be more vital to Hawaii's economic interests than to tap the blessings of rich soil, a stable climate, unlimited natural energy sources, and the recent progress in aquaculture. A Hawaii without the military could *boost* the state economy and make it more self-sufficient, thereby boosting our quality of life.

National Industrial Conversion

Hawaii's adjustment to a reduced military presence might be entirely managed through a community readjustment program similar to the one just cited. Many regions of the mainland United States, however, are heavily dependent on industries generated by Pentagon contracts. The U.S. shipbuilding industry receives 70% of its contracts from the Navy; about half of the nation's electronics industry is military-oriented; and the aircraft industry relies on government contracts to stay solvent.[31] Any movement to reduce the soaring Pentagon budget would have to consider the economic impact on such industries.

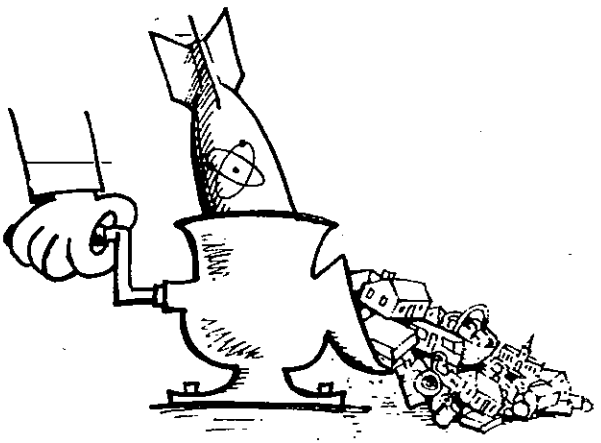


Research to date in the area of industrial conversion, or peace conversion, offers hope for the smooth transition of almost every industry with Pentagon ties to the production of alternative goods. In the shipyards, research and development could refocus on the deteriorating U.S. fishing fleet and end the shortage of modern fishing vessels. The yards could also produce hydroelectric equipment, heavy tools and equipment for sea-mining and many other non-military needs, with their extant capital. In the aircraft industry, Boeing has already established a trend by converting its military helicopter plant in Philadelphia into a profitable producer of mass transit railway cars—almost any aircraft facility has the existing

capability to follow suit. Air frame and air engine manufacturers could also be organized regionally to produce low cost mass housing, engines for ships, pumps and generators, and so on.

All of the new industries mentioned here would generate more jobs than current capital-intensive manufacture of useless, non-regenerating military weapons and equipment, while promising new markets in areas of largely neglected public responsibility. Major unions, such as the U.A.W. and International Machinists, have made conversion proposals of their own in recognition of its long term economic benefits to their workers. Congress has considered amendments to the Economic Development Act of 1979 to compensate workers and communities affected by military industrial cutbacks, with funds for local conversion planning. Seymour Melman, a Columbia University professor considered the founder of peacetime conversion theory, wrote recently:

> American capability for proposing a reversal of the arms race requires practical assurance to the powerful political, business and labor constituencies of the war economy that, in cases where it makes sense, conversion to civilian manufacture is a practical possibility and not just a pious dream.[32]

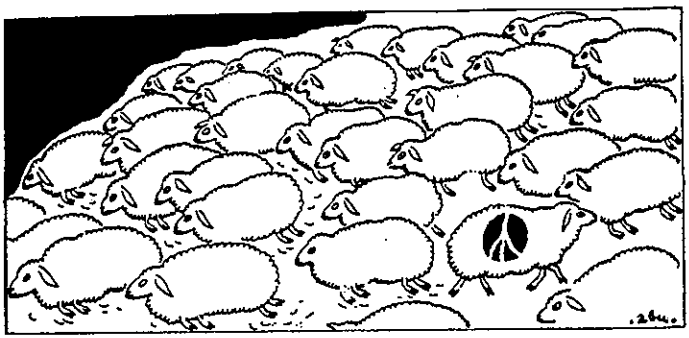



ALOHA AINA
WEST LOCH - HOME OF THE BOMB
NO NUKES
STOP NUCLEAR
MAKE HAWAI
NUCLEAR FRE

TAKING ACTION

The worldwide military build-up continues to escalate, not only endangering the participants in the arms race, but threatening to end human history itself. This escalation has a severe emotional and spiritual impact on all of us, and contributes to a growing feeling of helplessness in the face of violence and oppression. For some, this has resulted in paralysis; others have felt the need to take up the tools of violence itself as a means of survival. Yet the "crisis of hope" has generated a variety of effective and peaceful responses as well. Indeed, the history of resistance to the arms race is the history of hope created by many thousands of people confronting the issues head-on through nonviolent action.

Nonviolence means many things to many people—running the gamut from those who appreciate its imaginative tactics to those who embrace it religiously as a way of life. Given the enormity of the threat, many leaders in the anti-nuclear movement are convinced that nothing less than complete commitment to nonviolence will be sufficient to counter entrenched violence.



For those who move from philosophical concern to direct action, nonviolence becomes more than a private matter. It is tested in the public arena, where change has time and again been effected through genuine dialogue and a pursuit of the truth so unyielding that personal consequences—loss of job, arrest, jail, even death itself—are of secondary concern. Often civil disobedience, the deliberate breaking of laws considered unjust or opposed to human values, has been at the heart of successful nonviolent campaigns. Nonviolent resistance may seem he-

roic, especially when we see it in the lives of moral giants like Mohandas Gandhi, Dorothy Day, and Martin Luther King. But history shows what can be accomplished by ordinary people who, despite personal fears and perceived limitations, stride out firmly and honestly beyond existing boundaries:

—Decades of struggle by industrial workers finally gained for them the right to organize under the protection of law and to strike for redress of grievances.

—Rosa Parks sparked the Black civil rights movement on December 1, 1955, when she refused to move to the back of a Montgomery bus; with a sense of dignity and destiny she was arrested and jailed.

—Hundreds of thousands of Americans in the late 1960s and early '70s united to halt the U.S. war on the people of Indochina through broad-based protest and resistance.

—The long nonviolent campaign led by Cesar Chavez to gain decent wages and conditions for farm workers has scored many victories.

The effects of this recent history are seen today in the ongoing work of extending similar benefits to other agricultural workers. They are seen, too, in such diverse movements as those dedicated to protecting the environment, securing the just claims of native peoples, and bringing about the economic and political liberation of the exploited and oppressed.

Inspired by these successes of past and present, how can we best mobilize our scattered resources for action on nuclear issues? There are no ready-made blueprints for a demilitarized world. We need, therefore, to be creative, spontaneous, and flexible enough to react to crises on an *ad hoc* basis. Yet mere reaction is clearly insufficient; we must also be disciplined and clear-sighted in planning and carrying through long-range programs of resistance. Our numbers are small indeed, and among us we often find a frustrating variety of ideological and tactical approaches to the tasks at hand. What this demands is a willingness to communicate, to trust and accept one another in good faith, and to recognize the need for combining the assorted talents and interests into a unified course of action. Furthermore, such concerted action must focus simultaneously on international, regional, and local levels.

International Action

While considerable effort in the anti-nuclear movement is devoted to exposing the local and global dangers of the weapons in our midst, the eventual goal is total nuclear disarmament. In the meantime, isolated instances of arms control are

welcomed as significant milestones along the way. But disarmament and arms control should not be confused: the former necessarily involves dismantling weapon systems; arms control, focusing on future growth and development of armaments, seldom entails dismantling anything.

Conventional wisdom places the responsibility for arms reduction at the government level, with minimal or token input from ordinary citizens. Intergovernmental achievements, such as test ban treaties and the prohibition of nuclear weapons in the Antarctic, the seabed, and outer space, cannot be easily dismissed. However, a more critical appraisal would have to note that, since the first atomic blast in 1945, no government—whether unilaterally, bilaterally, or multilaterally—has reduced its stockpile of nuclear weapons. Proliferation continues unabated, with the nuclear club of nations growing by leaps and bounds. The SALT treaties, often hailed as landmark achievements, would not put a dent in the ongoing arms race, even if scrupulously observed by the contracting parties. Since the signing of SALT I in 1972, for instance, nuclear arms have doubled.

This ineffectiveness of government initiatives leads to the consideration of the role of peoples' movements in helping to disarm the planet. Where the efforts of official political structures have so often proven bankrupt, nongovernmental

organizations and grassroots networks of resistance can produce more significant results.

International outrage over the dangers of atmospheric nuclear testing forced the signing of the Partial Test-ban Treaty of 1963 by several major powers. In the mid-1970s protests by the peoples of the Pacific, with strong support from the international peace community, caused the cessation of atmospheric testing by the French. The threat of deploying new types of weapons—the neutron bomb, for example, or cruise and Pershing II missiles for possible NATO use— has been countered with organized protest. But to date, such campaigns have progressed unevenly, forming and re-forming with each new issue. Resistance has failed to go deep enough or long enough to challenge the very foundations of war.

Yet there are hopeful signs on the international scene. The United Nations has succeeded to some extent in blending elements from both public and private sectors to address nuclear concerns. An example of this is seen in the unprecedented 1978 U.N. Special Session on Disarmament, which attracted hundreds of participants from the world community. On less official levels, important networks are being built, defining common goals and cooperative strategies. There is, for instance, the International Mobilization for Survival, whose goals are fourfold: Zero Nuclear Weapons, Ban Nuclear Power, Stop the Arms Race, and Meet Human Needs. The Fellowship of Reconciliation and the Women's International League for Peace and Freedom are two organizations which approach the problem from a global perspective.

The War Resisters League has sponsored a New York to Moscow walk for peace and justice and also staged simultaneous demonstrations in the Soviet Union and the United States. There are strong anti-nuclear movements in Europe, particularly in Great Britain. A German environmental and political group, called the "Green Party," has placed strong emphasis on the nuclear issue. Japan, the world's first victim of the nuclear age, has long been a leader in the disarmament struggle, claiming widespread support among religious, labor, student, and other groups in that country. Over five hundred Japanese delegates, representing nongovernmental organizations, participated in the 1978 U.N. special disarmament session.

Regionally

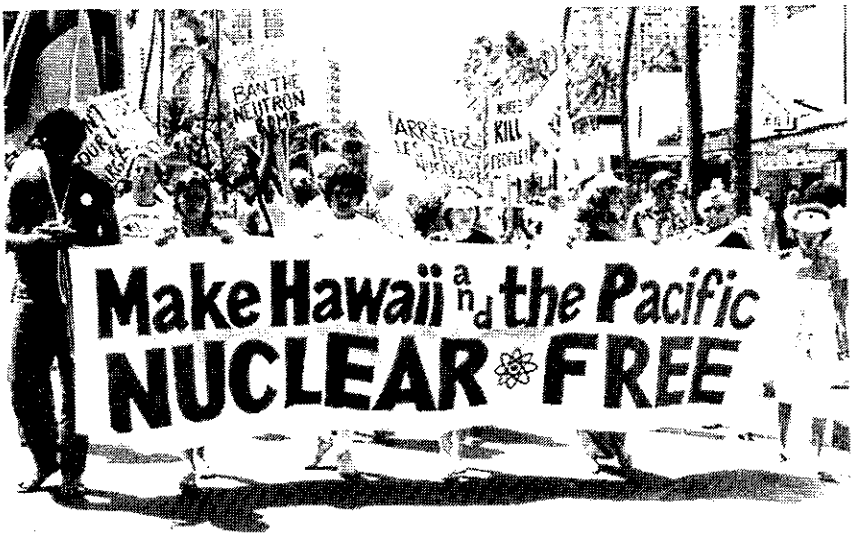
Many nations and regions of the world are presently bound by mutual security pacts; but in a nuclear world such agreements, holding out the promise of "defense" and "security," merely propagate the delusion that weapons of war can become instruments of peace. One creative alternative to regional military security pacts is the concept of nuclear free zones. Seven of nineteen agenda items on disarmament of the 1975 U.N. General Assembly dealt with nuclear free zones. Such a zone was actually established in 1967 by the Treaty of Tlatelolco, which prohibits testing, use, manufacture, production, or acquisition by any means of any nuclear weapons by Latin American countries.

Perhaps of greatest importance is the possible chain reaction that might be set in motion by the nuclear free zone concept. As one geographical area after another declares nuclear technology an "undesirable alien," the banned atom may one day find itself without a home anywhere on earth. Also, "zones" do not have to take on continental or oceanic proportions. All of us inhabit potential nuclear free zones—our own neighborhoods, cities, and states. These are more manageable zones, tailored to the resources of action-oriented groups. Recent success stories surrounding the storage and transport of nuclear wastes demonstrate the possibilities. With several states legislating their territories as "off limits"

for waste dumping, others promise to follow the same course. The banning of nuclear weapons in even one or two communities might be all that is needed to get the "snow ball" rolling.

As mid-Pacific residents, we have a special responsibility to our own region. People of the Pacific islands have already paid a heavy price to the nuclear powers. Native lands have been confiscated and irradiated. In March, 1946, approximately 160 inhabitants of Bikini atoll were forced to evacuate their ancestral home. In 1947, 142 residents of Eniwetak were evicted to make way for U.S. testing. For ten years 43 nuclear tests scarred this fragile ring of coral islets in eastern Micronesia. In some cases, entire islands have been vaporized by the tests of France, England, and the United States. A legacy of cancer has been left for present and future generations. But the damage has not been exclusively physical; culture, economy, and language have all been victims.

Out of this history of exploitation grows resistance. People of the Pacific see a direct link between efforts to regain control of their own lives and efforts to denuclearize the Pacific. The two are inseparable. Each new weapon system built and deployed is inevitably accompanied by forward support bases and subsystems for surveillance, command, control, communication, and navigation—all



of which displace and damage native societies. In consequence, Pacific peoples are growing determined not to permit further military and political domination by foreign powers. Some examples:

1. The Palau islanders have recently adopted a nuclear free constitution, despite serious attempts by the United States to subvert the constitutional process.
2. In New Zealand a major campaign prevented the installation of an Omega transmitter; the Peace Squadron there is currently attempting to block U.S. nuclear warships from that country's ports.
3. Marshall Island people have intensified protests against nuclear missile testing and military occupation of lands on Kwajalein atoll.

4. A people's movement in Tahiti, calling for independence and a stop to underground nuclear weapon testing, continues to grow with regional and international support.
5. Fiji, Kirabati, and Vanuaaku have recently moved from colonial rule to political independence.

Furthermore, a solid network of Pacific resistance, supported by Pacific rim peace and justice groups, is being developed to stem the tide of nuclear infection and the demise of island cultures. An important beginning was made in 1975, when participants from more than twenty countries met in Suva, Fiji, to share experiences and draft a People's Treaty for a Nuclear Free Pacific Zone. A follow-up conference in Ponape, Micronesia three years later built upon this earlier groundwork, and a Honolulu conference in 1980 drew up specific strategies to implement the treaty.

Hawaii

Along with the general upsurge of anti-nuclear activity throughout the Pacific island chains, a campaign is steadily growing in the mid-Pacific state of Hawaii. From an action viewpoint, our long-range vision is to end Hawaii's dubious distinction of being the U.S. nuclear command center and weapon stockpile for half the earth's surface. A more modest and immediate goal is to peel away the military "aloha" camouflage and give the weapons such visibility that they cannot be ignored or tolerated. Initially, this demands a strong dose of public education because, despite the attention given to nuclear weapons and the arms race over the years, these issues still seem abstract and removed from daily life. This sense of unreality is largely due to the fact that information about nuclear weapons—storage locations, transportation routes, the possibility of accident, the specifics of emergency plans—is normally hidden from public eyes. When people do become concerned and begin to ask questions, the government says that it can "neither confirm nor deny the presence of nuclear weapons in any particular location."

Rather than protecting national security, the effect of this policy of silence is to discourage further inquiry and stifle public discussion. Consequently, nuclear weapons have only rarely become hot local issues. They have not been pursued in our most immediate political forums, those close to home. We can only imagine the impact of the vigorous public debate which might take place in our state legislatures, city councils, neighborhood boards, and community associations. What does seem clear, however, is that things would be different if communities had access to full information about the local effects of the nuclear arms race. The aftermath of the reactor accident at Three Mile Island in March of 1979 proves that public opinion can be aroused. But it is neither desirable nor practical for us to wait for a dramatic occurrence. Ours must be the more painstaking route of education combined with action.

What follows is an account of how we, with a mixture of curiosity and determination, went about our research. In Hawaii, the year 1974 marked the beginning of our search for publicly available literature on the general subject of nuclear arms. We checked library shelves for books, magazines, professional journals, and government documents. To our surprise, we found a considerable amount of useful material, from which we were able to piece together data on weapon systems which are nuclear capable.

We then began to explore whether these systems were present in Hawaii. Indeed they were, more than we ever imagined. Knowing that a basic military posture is one of readiness, that all systems are kept "ready to go," we thought it

likely that substantial weapon stockpiles would be close at hand. Pinpointing the specific storage sites was our next task. Before long we knew exactly where they were, having unlocked the secret which for so long had been officially "neither confirmed nor denied."

Our next step was to create some tools for raising questions and encouraging public discussion of what we had uncovered. As our first project we assembled a slide presentation, "Nuclear Hawaii." To obtain close-up, detailed photographs of storage and maintenance facilities, as well as action shots of loading and transporting activity, our photographers devoted many hours of patient waiting and observing from both land and air. Edited and updated several times since initial production, the slide show has been seen by tens of thousands in schools, churches, and other community gatherings in Hawaii, on the U.S. mainland, and abroad. Its narrative has been translated into several languages.

To draw attention to the transporting of weapons through residential districts of Oahu, we displayed "Danger, Nuclear Bombs Crossing" signs at major intersections and held them on freeway overpasses. As a way of further highlighting the dangers, a mock nuclear bomb convoy, decorated with banners and accompanied by fanfare, followed the actual transport route used by the military. In areas slated for the expansion of bomb storage, we planted papayas and other food crops to dramatize the sacrifice of prime agricultural land to the nonproductive purposes of war. Tours of base perimeters were conducted to familiarize people with the nuclear geography of their neighborhoods. With the construction of new housing in the immediate vicinity of one base, the nuclear tour proved to be a shocking side attraction to the usual Sunday afternoon "open house" affairs offered by the realtors.

Town meetings, scheduled in communities adjoining nuclear storage sites, provided not only platforms for debate but also opportunities to measure citizen awareness and concern. In 1979 we held a traveling symposium on the moral, legal, and political implications of the nuclear issue; participants included such internationally respected figures as Dr. Helen Caldicott, Sidney Lens, and Howard Morland. More recently, monthly forums on nuclear matters have been presented in public libraries. The streets, along with academic surroundings, have provided good opportunities for instruction. For some time we used the monthly civil defense siren test as a time to leaflet and warn that there is no "defense" in the event of a nuclear attack.

Through such actions, community response has been building. There are many who join us as individuals. Also, among our new allies are an assortment of groups concerned with peace and justice issues—environmental organizations, labor unions, and movements of native Hawaiians and others devoted to rescuing land from commercial and military exploitation. From these groups people joined a succession of vigils, demonstrations, and marches over the past six years. Some of these have been religious events—small groups, for example, celebrating an Easter sunrise at the gates of the West Loch nuclear storage facility or silently holding a cross in front of the Federal Building on Good Friday. There have been other occasions involving large-scale participation, such as a 1978 Hiroshima-Nagasaki commemorative march through Waikiki, ending with a silent vigil line stretched out along the beach amidst thousands of mid-day sunbathers. An annual event is our August 6 memorial ceremony held at Honolulu's City Hall for its "sister city," Hiroshima. On December 1, 1979, several hundred people gathered on the grounds of historic Iolani Palace in downtown Honolulu to take part in a rally for a Nuclear Free Pacific sponsored by a coalition of organizations.

All along, the strategy has been to create an anti-nuclear presence in the often untraveled environs of weapon storage sites, and at the same time attempt to communicate our concerns to greater numbers in locations of higher visibility, such as parks, shopping areas, and government centers. While public exposure and maximum media coverage are among the hoped-for results of any action, these are not the only measures of success or effectiveness. For the sake of symbolism or to preserve the "truth" of an action, we occasionally sacrifice publicity.

While expanding our efforts to discuss the situation with the public at large, we began early in the campaign to knock on government doors at all levels. We repeatedly asked for the release of facts related to the nuclear presence on our island, and soon came to the conclusion that many city and state officials had less information than we did. Fire, police, and health departments, for example, were being prevented from doing their jobs in looking after the health and safety of the community. Our inquisitiveness prompted some local officials to do their own questioning of the military.

But as we pursued answers through the maze of administrative and legal channels, instances of sympathetic or cooperative response were quite rare: government people seem to hear no evil, see no evil, and speak no evil when it comes to the military establishment. Over a six-year span we have spent countless hours before legislative and congressional committees, presenting carefully prepared and documented testimony on nuclear matters. The results have not been encouraging. Dozens of bills and resolutions, submitted through friendly representatives, have died even before coming to a vote. A minor victory was won a year ago in passage of legislation which would enable the state Department of Health to conduct a sampling of Pearl Harbor's waters and marine life for radioactive

content. Yet, despite disenchantment, we continue to go the legislative route—lobbying and testifying, hoping for that eventual break-through.

The courts have also consumed a fair amount of our energies. For the past two years a lawsuit, initiated by catholic Action of Hawaii and several concerned individuals, has been working its way through the federal legal system. The suit was filed against the Navy for its failure to observe environmental requirements in the construction of the 48 nuclear storage bunkers plus maintenance buildings at Pearl Harbor's West Loch. The basic issue being asserted before judges and lawmakers is peoples' right to know and make decisions about nuclear weapons in their neighborhoods. What keeps us going is the realization that the process of educating the public is furthered, even if a bill is defeated or a case lost.

Looking back over our efforts here in Hawaii pushes us to certain hard and critical questions. While we cannot help but wonder at the overwhelming amount of energy generated by such a small number of people, we must admit that we have failed to attract significant numbers to active concern over the bombs in our midst; and those we have reached do not represent a wide enough cross-section of Hawaii's population.

In addition to assessing our ranks, we must also analyze the programs we have undertaken. Although we like to speak of our anti-nuclear "campaign," has it really had the continuity, consistency, and unified purpose usually associated with the term? Or have we merely staged a succession of often unconnected events, with little follow-up or critique? And beyond the activity, what have we formed in the way of community to provide supportive human relationships for those committed to the work?

Aside from acts of protest and resistance, have we begun to explore creative alternatives to systems of war and violence? For example, what preliminary steps might be taken to convert Hawaii's economy from war to peace? As part of our self-evaluation we also have to give serious consideration to the possibility of civil disobedience, which till now has been at the fringes rather than the heart of our activity.

On balance, our past actions, though sporadic and flawed, come out favorably enough to give us hope for whatever we choose to undertake for the future. Neither Hawaii, nor the Pacific, nor the world are even close to being nuclear free. But we refuse to succumb to the paralysis which prevails around us. Through reflection and action we will seek both to disarm our own lives from the forces of violence and to disarm the nuclear menace before it destroys us all.

SOME PRINCIPLES FOR ACTION

While we hope that our sharing of the Hawaii experience will provide helpful suggestions leading to action, it is by no means offered as a fixed model for imitation. We would offer the following principles and steps, formulated from a nonviolent perspective, as a flexible framework which can be adapted to the unique needs of a given action or campaign.

Whether nonviolent direct action is viewed as a tactic and technique or as part of a way of life, it is an honest, life-affirming discipline which attempts to educate and communicate with people by appealing to their consciences and showing understanding of their situations. It calls for action based on the refusal to do bodily harm and the willingness to take personal risks for what one believes to be right. There is a fundamental recognition that the realization of worthy goals cannot be separated from the means used for their achievement. The real causes of oppression which we seek to remove are the economic and political institutions and practices which support injustice, not the individual human beings who are often trapped into carrying out the destructive purposes of these systems.

Four Basic Principles

1. Define your objective. There is much injustice and violence around us. A single campaign or action will not remove it all. Focus sharply on a specific injustice. Decision-making and negotiation will be helped immensely if you have a clear idea of a short-range objective (for example, planting a symbolic "tree of life" on a military base) and of a long-range goal (complete and general disarmament in the United States).

2. Be honest and open-minded. Part of your goal is to win your opponents' respect. Conduct yourself in a way to encourage it. Your scrupulous care for truth and justice will earn you their respect. Openness to what others may have to say will convey your respect for them. A crucial part of nonviolent direct action is the understanding that no one knows the complete truth about the issues at hand.

3. Love your "enemies." Real justice is established when people refuse to maintain oppressive systems, not when the people in them are destroyed. Nonviolence requires a steadfast and conscious willingness to mentally separate respect for all people from disrespect for what some people are doing in a given situation. For example, nonviolent direct actions at nuclear power sites and submarine bases have been designed and carried out to show how the workers and the people living in the surrounding communities are adversely affected by their operation. Participants in these actions have avoided condemning, ridiculing, or humiliating workers and law enforcement officials. Rather, they have spoken with them from a position of respect, being honest and direct about their reasons for opposing the constructing of nuclear power plants or the stockpiling of nuclear weapons.

4. Give your opponents a chance to change. Before beginning an action or campaign, contact and attempt to confer with your opponent. Don't be self-righteous. In a specific confrontation, find a way to let them participate in the solution when it comes. Give them options to respond to, not ultimatums. Make it as easy as possible for them to accommodate your position without having to concede defeat.

Six Strategic Steps

There is a certain progression intended in the following steps. A fair amount of investigation and education, for example, should always precede any resistance which would involve civil disobedience. However, throughout all the steps there is considerable overlapping; you do not neatly complete the first step, then proceed to the next. For those who wish to go more deeply into some of the activities suggested here, we strongly urge a careful look at the appendix which follows this chapter.

1. Investigate. Before undertaking single-handed action, make every effort to find out what is already being done and who is doing it. Most big cities, or localities with significant military presence, have some organized opposition to the nuclear threat. Meet the people who are active in your community's social concerns. Phone, write, or visit the offices of peace organizations. Activists do not require appointments or formal introductions. Just drop in!

2. Support. Lend your support—both moral and financial—to local peace and justice groups. Get your name on key mailing lists and send in an occasional donation, however modest; anti-nuclear programs depend largely on the generosity of ordinary folks. Such groups also rely heavily on volunteer help. If you can type, file, or do graphics, your offer of service will be welcome.

3. Organize. Perhaps your investigation has revealed that there is nobody to support. Although there are issues to be confronted, no one has seen fit to put together any organized resistance. Inadequate as you may feel, you have now become the local organizer. Congratulations! Your new job description is to seek out people of like concern and mobilize whatever resources are at hand.

4. Educate. Before plunging into the unfamiliar role of peace organizer-activist, you may feel an urge for self-education. Sooner or later you should begin to share your knowledge with others. The public in general, and elected officials in particular, are in desperate need of such education. Talk to a reporter or the editor of your local newspaper. Organize a letters-to-the-editor campaign, or at least write one yourself. Call in to radio talk shows, or arrange for a visiting "expert" to be interviewed on the air.

Writing, cabling, or phoning your state and local representatives is a way of not only educating but also applying effective political pressure. Visit your senator or

congressional representative; most of them have local as well as Washington offices. During election campaigns find opportunities to ask pointed questions about candidates' views on matters such as disarmament and the nuclear threat.

Seek out speaking engagements to further spread the word. Church, school, and community organizations are often looking for presentations to liven up their meetings, and are sometimes even willing to pay a small stipend for the privilege of hearing your story. Also, you can host a meeting at your own home, inviting friends and neighbors. Get others to do the same. A short film or slide show can provide an attractive supplement to your own talk.

5. Demonstrate. At some point, your work of educating should move from the lecture hall to the street. Picketing, holding vigils and rallies, and passing out leaflets are called for at this stage. All of these can have considerable impact on the public, the press, and law enforcement officials if conducted in a well-organ-

ized manner. The people who are demonstrating should be informed, cool-headed, and able to endure heckling and withstand violence without panic and without resorting to violence in return.

6. Resist. The resistance stage of nonviolent direct action usually implies some form of civil disobedience—the ignoring or deliberate breaking of an unjust or otherwise immoral law. Resistance actions can have a profound effect on both resister and spectator alike. You will find your own commitment renewed and strengthened. At the same time, your action may create a moral crisis for others who have ignored the issue but must now make a decision.

Civil disobedience requires careful planning and nonviolence training. A traditional part of nonviolent resistance is the willingness to suffer the consequences. Such acceptance usually calls for cooperation with arrest, sometimes staying in jail instead of paying bail or fine, and refraining from haggling over legalistic details in court.

Your choice of appropriate forms of civil disobedience will sometimes be dictated by the prevailing political climate, but more often will be prompted by your own imagination and creativity. Draft resistance, refusal to pay war taxes, blocking the gates or scaling the fences of military bases, and symbolic blood pourings are but a few examples of a wide range of actions which have proved effective in the past. Allow time for serious reflection and discussion before reaching a decision, but remember always to direct your thoughts toward action.

Conclusion

While action has been the specific focus of our last chapter, the authors in no way intend to convey that the rest has been purely theoretical, though theory is crucial. In peacemaking, good theory and hard information are essential to undertaking practical action. Throughout, we have attempted to give a balanced vision—pointing out the interrelations between the local, national, and international dimensions of militarism.

But however broad your perspective, action can only begin *where you are.* Sooner or later global issues become local problems; the evils and sorrows of humankind come home to haunt us. Hopefully we will find ourselves prepared to act—that is; to resist, to heal, and to build up.

These pages—created from a variety of personal recollections and experiences of active resistance to war and the threat of war over a decade or more—are offered in a deep spirit of hope that the world's people, with dedicated effort, can meet human needs and prevail over the inhuman forces that threaten to end existence on our planet.

APPENDIX

INVESTIGATING NUCLEAR WEAPONS IN YOUR COMMUNITY

Before you begin your search, a word of caution is necessary. Your inquiries might very well prompt an investigation by government agents to determine whether you are breaking any of the laws which attempt to enforce secrecy in nuclear matters. Under certain circumstances, there are heavy penalties for disclosing nuclear secrets. It is best to be prepared.

To protect yourself it is wise to proceed openly and publicly. Make it very clear that you are asking questions because you care about the future safety and health of your community and the world. Involve government officials in your search so that your concerns and motives are on record. Always stress that you, as a citizen, have a right to know about those things which endanger lives. Do not ask anyone to reveal "secret information." This could be illegal; besides, the same information might be more easily gathered through your own use of publicly available sources. It might be worthwhile to become familiar with the law which covers most nuclear matters, the Atomic Energy Act of 1954.

The Government Accounting Office has reported that there are more than 600 "nuclear capable units" where the military assembles, maintains, and stores its weapons. An article in *Army Magazine* estimated that the Department of Defense has "1500 nuclear weapons storage sites" around the world. NARMIC, a project of the American Friends Service Committee, believes that "at least 40 of the 50 states house bases or installations which either serve or could serve as nuclear weapon storage or deployment sites." Whatever the actual numbers, nuclear weapons are far more prevalent than most of us have dreamed. The process of locating bases is surprisingly simple. Let us look at it step by step.

The *first* step is to locate the bases in or near your community. This is public information and should not be difficult to obtain. One way is to look in your city's telephone directory under the listings for the United States Government. Most large bases would be included here. If there is a Federal Information Office in your area, you might be able to obtain more details there. A more complete list should be available from the Department of Defense. Requests should be directed to the Assistant Secretary of Defense (Installations and Housing), Washington, DC 20301. An alternative source is your own representative in Congress, who should be able to secure the desired information from the Defense Department.

Your *second* step is to learn more about each of the bases. Each military facility has its own particular purpose, and the bases in a geographical area will usually be related to each other. Some are largely administrative, others are for training, while others are the home of specific combat units. Nuclear weapons would ordinarily be stored or maintained in areas near the combat units they are assigned to. Find out what each of the bases does, and how its functions are connected with the others'.

There are a number of different ways to get this information. Initially, you should write to the Commanding Officer of each base and ask about the designated mission of the base. You should also request an overall description of the base—its history, the land area it encompasses, the number of civilian and military personnel—and ask any other questions which come to mind. To help ensure that your letter is not ignored, send carbon copies to a

senator or representative, and to one local legislator. Include a cover letter, explaining your concerns, and ask these officials to keep track of the military's response. This opening of dialogue with the military and your elected officials can also be an educational experience for all concerned.

Local newspapers are another good source. Many papers maintain an index, which will make your search much easier. Call the newspaper and ask if an index is available. If not, see whether your public library has one. The local press also carries occasional articles about bases in the area; while these are rarely critical, they do contain useful items. Public or university libraries may also have clipping files. It is not a bad idea, either, to keep your own file of newspaper articles related to local military activities.

Finally, you might be able to find information by phoning base libraries. Any large military installation will have a library, and the librarians are civilian workers who will know quite a bit about the history and functioning of the base. Ask them for assistance. If they seem suspicious or unwilling to help, you might say that you are a free-lance writer or a student working on a term paper. This same approach might be used in dealing with the base's Public Information Office—another good source of material.

At the *third* step you will have to sift through the results of your research to identify bases with labels such as "ammunition depot" or "magazine." These are potential storage areas for nuclear weapons. Watch for descriptions of any weapons known to be connected with local bases. Consult the box in "The Military Aloha State" chapter for a listing of "nuclear capable" weapon systems. Are any located in your community? If so, nuclear arms may be your next-door neighbors. You can find out more about any of these weapons by checking one of the standard reference works, such as those of the *Jane's* series. Most good libraries will have these books.

You might want to write back to the commanding officer to ask for a listing of what ships, planes, or ground weapons are normally present on his base. In some cases, the military is very open about such information. If you succeed in obtaining a listing of weapons, you might compare it with the chart printed above.

Having pinned down which bases are nuclear capable, you are not far from discovering which ones have the actual weapons. Nuclear arms must be guarded in very special ways, since they are both physically dangerous and politically sensitive. Ironically, it is the intensive security measures designed to "protect"nuclear weapons which make their location so highly visible.

A congressional report on security at nuclear installations in Europe, for example, found that "nuclear storage sites are easily identifiable," because they are "lighted from dusk to dawn and stand out in the countryside." One of the report's authors stated that "very frankly, we do not tell people what is there, but a man would have to be a fool not to know what is there." The following description from *Army Magazine* demonstrates why such sites are next to impossible to hide:

> The storage sites are usually concrete-and-steel underground "igloos" surrounded by double anchor-chain fences with sophisticated sensors (IDS, or intrusion-detection systems) which react to noise, magnetism, movement or seismic effect (earth tremor). The igloos are flood lighted at night and constantly guarded. Besides the guards at each site there are "reaction" or alert forces in nearby hardened buildings ready to defend the site when the alarm sounds."

It is the high intensity lighting and double fencing which particularly give away the nuclear habitat. When seen from the air or a land elevation, such areas, lit up like "Christmas trees," stand out notably from the rest of the base.

Aside from these instances of observation from a distance, there are certain opportunities for on-site inspection afforded by military publicity events. Local groups should take advantage of periodic "open houses" to explore those areas suspected of holding nuclear weapons. It is sometimes possible to get near enough to see clearly the double fencing and guard towers. Even if this is not possible, lots of other good information can be gathered during the tour.

One very important resource is the military's own telephone directory. In many places, this directory is printed by the local telephone company. In Hawaii, for example, the directory is published by Hawaiian Telephone and lists all the common base numbers as

well as personal listings for the state's active-duty personnel. The phone company or your library might have a reference copy of this directory. If not, you might try to look at a copy on one of the bases.

The listings of particular offices on each of the bases often include very revealing information. For instance, an ammunition depot might list a branch entitled "special weapons," a tip-off that nuclear weapons are at least part of the depot's storage. Be imaginative in following up any leads that you find.

There are a few other ways in which you might be able to "prove" that nuclear weapons are in your area. The *Commerce Business Daily*, a publication of the federal Department of Commerce, lists all government contracts being put out for bids by federal agencies. Although this source is cumbersome to use, it is occasionally worth the effort. The following entry appeared in the October 31, 1975 issue:

> Nuclear weapons security at Plattsburgh AFB, NY. Design for perimeter security lighting, area lighting, emergency power plant, auxiliary surveillance towers, hardening of new and existing surveillance control facility. Estimated construction cost range $1,000,000 to $5,000,000.

Clear and concise data such as this can be helpful in your task of giving visibility to nuclear weapons.

With persistence and ingenuity, other sources of information can be uncovered. At Pearl Harbor, some local researchers took an Armed Forces Day tour of a Navy ship and asked questions about the ASROC nuclear missile launchers which are visible on deck. In another case, it was discovered that civilian police officers were assigned as escorts for nuclear weapons convoys between two nearby bases. They were relatively open in discussing their role.

The goal of all these efforts is, of course, to collect enough evidence to show that nuclear weapons are stored and deployed in your community. The realization that these weapons are around will prompt many people to begin asking their own questions and sharing their own discomfort and fears. The next problem for the organizer is to mobilize this aroused public opinion and direct it toward action.

NOTES

THE MILITARY ALOHA STATE

1. "A Talk with Adm. Robert Long the New Commander in Chief Pacific," *Honolulu Star Bulletin,* 24 March 1980,.p. A-19.
2. Quoted in John Edwards, "Washington's Pacific Thrust," *Far Eastern Economic Review* (13 June 1980), p. 40.
3. Admiral Maurice F. Weisner, "A Military View of Asia," *Command* (July, 1978), p. 4.
4. Edwards, p. 38.
5. Edwards, p. 40.
6. Figures compiled from a CINCPAC public affairs booklet titled "The U.S. Pacific Command" (unpaged) and from a telephone interview with Lt. Commander Sherwood of PACFLT Public Affairs Office, 5 February 1980.
7. Public Affairs Office of the Commander in Chief PACFLT, "The United States Pacific Fleet," p. 3.
8. The average warhead will miss its bull's-eye by only a few hundred yards. Range and accuracy statistics from Robert Aldridge, *The Counterforce Syndrome* (Washington, 1978), pp. 8, 15.
9. "The United States Pacific Fleet," p. 3.
10. Pacific Division Naval Facilities Engineering Command, *Military Property Requirements in Hawaii* (MILPRO-HI) (Honolulu, 1979), p. D-34.
11. MILPRO-HI, p. D-26, and telephone interview with Capt. Gebler, PACAF Public Affairs Office, January, 1980.
12. One squadron of B-52s was under CINCPAC's orders as of 24 March 1980. See "A Talk with Adm. Robert Long the New Commander in Chief Pacific."
13. This figure excludes the 1900 members of Hawaii Air National Guard and 270 Air Force reservists.
14. Telephone interview with Will Krantz, WESTCOM Public Information Office, January, 1980. In the event of war, these troops would be supplemented by those of the Hawaii Army National Guard and the 100th/442nd Infantry Battalion of the Army Reserve.
15. Lyle Nelson, "Army Chief Favors Putting Major Headquarters in Isles," *Honolulu Star Bulletin,* 8 July 1980, p. A-2.
16. MILPRO-HI, p. D-12.
17. Lyle Nelson, "House Includes $209 Million for Diego Garcia Items," *Honolulu Star Bulletin,* 3 July 1980, p. C-4.
18. "Pacific Command: an Overview," *Command* (July, 1978), p. 11.
19. Mark Matsunaga, "PACAF Chief Sees Threat in North Korea," *Honolulu Advertiser,* 14 March 1980, p. E-2.
20. A precise count is difficult due to reorganization of PACOM structures, but 110 are listed in a document titled "Military Installations and Facilities," which CINCPAC Acting Public Affairs Officer Commander E. F. Smith passed on to James Albertini, 4 February 1977.

21. MILPRO-HI, p. D-21.
22. Lyle Nelson, "Navy Plans New Kauai War Range," *Honolulu Star Bulletin*, 2 March 1974, p. A-7. See also Jan TenBruggencate, "Missile Facility One Busy Place," *Honolulu Advertiser*, 12 February 1976, p. B-4.
23. "Defense Chiefs Warn against Soviet Might," *Honolulu Advertiser*, 30 January 1980, p. A-4.
24. Aldridge offers a summary of these developments, pp. 34–43.
25. Aldridge, pp. 40, 41.
26. See, for example, "West Loch's Questions," a *Honolulu Advertiser* editorial, 28 July 1980, p. A-12.
27. The presence of chemical warfare agents and other dangerous munitions is discussed more fully in the next chapter.
28. This was preliminary work, presumably, for the ground-based electro-optical deep space surveillance (GEODSS) system later to be installed on Maui.
29. MILPRO-HI, p. D-32, notes South Point's involvement with Maui in Project HAVELENT of the Advanced Ballistic Reentry System, which has responsibility for the MARV research.
30. See Aldridge, pp. 18–20.
31. Owen Wilkes, "Spacetracking and Space Warfare," publication S-1/77 of the International Peace Research Institute (Oslo), p. 39.
32. See MILPRO-HI, pp. D-32 and E-87. The Space Detection and Tracking System is headquartered at the Space Defense Center.
33. Wilkes, p. 33.
34. Wilkes, pp. 14–21.
35. Written response to the author by Major Andrew Coffey, CINCPAC Public Affairs Office, 29 January 1980.
36. Telephone interview with Major Coffey, 3 February 1980.
37. Department of Defense "Memorandum for Correspondents" dated 13 February 1980 and Lyle Nelson, "Military to Reopen Kunia Communications Facility," *Honolulu Star Bulletin*, 11 February 1980.
38. Stockholm International Peace Research Institute, "Armaments or Disarmament?" (Stockholm, 1980), p. 12.
39. Written response to the author by Major Coffey, CINCPAC Public Affairs Office, 29 January 1980, and follow-up telephone interview of 3 February 1980.
40. Telephone interview with Lt. Commander Schmidt, CINCPAC Public Affairs Office, January, 1980.
41. Eyewitness report from Fredrick W. Rawe, III, a civilian visitor to CINCPAC headquarters in 1974.
42. Lyle Nelson, "Hickam Blue Eagle in Key Role," *Honolulu Star Bulletin*, 18 June 1980.
43. Written response to the author by Major Coffey, CINCPAC Public Affairs Office, 29 January 1980.
44. "Pacific Command on Brief Alert," *Honolulu Star Bulletin*, 9 June 1980, p. A-4. All reports indicate that the alert itself was cancelled after three minutes.
45. MILPRO-HI, p. E-1.
46. Calculations by Ian Lind, Hawaii area office of the American Friends Service Committee, Honolulu. Figures supplied by the Deputy Assistant Secretary of Defense (Installations and Housing).
47. MILPRO-HI, p. F-66, notes that the Navy has made a "de facto release" of these areas, but formal federal ownership is still in effect.
48. Robin Foster, "A Critical Look at Military Land Use," *The Hawaii Observer* (5 August 1975), p. 8.
49. Mark Matsunaga, "U.S. Military First Got off the Ground Here in 1913," *Honolulu Advertiser*, 14 May 1980, p. A-5.
50. Hawaii State transportation director Ryokichi Higashionna comments on consideration of PACOM sites for the new airfield: "As long as you have the military involved, you're looking at a third party to give us an okay. We have not been able to get that kind of approval from the military and I doubt we'll be able to get it in the near future." Quoted in

Douglas Woo, "New Airport Proposal Shut Down," *Honolulu Advertiser,* 12 February 1980, p. A-1.
51. Robin Foster, p. 6.
52. Dennis Fujii, Chief of Media and Community Relations for the 15th Air Base Wing, in a telephone interview, 1 August 1980.
53. Telephone interview with Major Coffey, CINCPAC Public Affairs Office, 25 July 1980.
54. Fujii interview, 1 August 1980.
55. Fact sheet prepared by the Public Affairs Office, Naval Base Pearl Harbor.
56. The 1973 Facilities Requirement Evaluation, State of Hawaii (FRESH) concluded that PACOM was 45,000 acres short in Hawaii. This shortage of land is also a theme in MILPRO-HI. See p. D-1, for example.
57. Telephone interview with Greathouse, CINCPAC community relations director, 8 August 1980.
58. Greathouse (telephone interview 15 August 1980) put the combined gate at 55 to 65 thousand but suggested some overlap between attendance at the two events.
59. Greathouse interview, 8 August 1980.
60. A WESTCOM Civilian Advisory Group roster dated 15 May 1980 lists, among others: John D. Bellinger, Chairman of the Board and Chief Executive Officer, First Hawaiian Bank; Herbert C. Cornuelle, President, Dillingham Corporation; Fred E. Trotter, Campbell Estate trustee; James F. Gary, Chairman, Pacific Resources, Inc.; Chinn Ho, Chairman, Capital Investment of Hawaii, Inc.; Robert J. Pfeiffer, President and Chief Executive, Alexander and Baldwin, Inc.; and Sakae Takahashi, Chairman of the Board, Central Pacific Bank.
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SUGGESTED READING

THE MILITARY ALOHA STATE

Little has been published on the military in Hawaii aside from the material which PACOM has produced about itself. The study compiled by Pacific Division Naval Facilities Engineering Command, titled *Military Property Requirements in Hawaii* (Honolulu, 1979), is the best current source for a Hawaii overview from the military's perspective.

The Hawaii area office of the American Friends Service Committee is presently researching the history of military landholdings in the State, plus military land use policies. For the status of this project and possible publications, contact AFSC in Honolulu (2426 Oahu Avenue, Honolulu, HI 96822).

Gavan Daws, *Shoal of Time: a History of the Hawaiian Islands* (Honolulu: University Press, 1974), provides a good feel for military involvement in Hawaiian affairs prior to Statehood. J. Garner Anthony, *Hawaii under Army Rule* (Palo Alto: Stanford, 1955), provides an in-depth study of the most bizarre chapter in Hawaii's relationship with the armed forces—the years of martial law during World War II.

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of the U.S. counterforce programs and contrasts them to Soviet capabilities. Excellent. A revised edition is now available, and Aldridge is soon bringing out a new book, titled *First Strike,* as well.

Ruth Leger Sivard, *World Military and Social Expenditures 1979.* Leesburg, VA: World Priorities, 1979. A valuable statistical guide to world arms costs, especially as they compare to outlays for nutrition, health, education, and other human needs. Produced annually.

Stockholm International Peace Research Institute (prepared by Frank Barnaby and Ronald Huisken), *Arms Uncontrolled.* Cambridge: Harvard University Press, 1975. Especially useful is the detailed chronology of U.S. and Soviet strategic weapon development. SIPRI and its sister institution, the Oslo Peace Research Institute, are fair and highly reputable sources. See their catalogues of annual publications.

The Defense Monitor, published monthly by the Center for Defense Information, is a wellspring of responsible data on current U.S. military issues. CDI "supports a strong defense but opposes excessive expenditures or forces" and boasts a number of retired brass and intelligence officers on its staff and board. *The Defense Monitor* is available on request from CDI, 122 Maryland Ave. NE, Washington, DC 20002. Other publications frequently worth reading for arms race news are *The Bulletin of Atomic Scientists* and *Aviation Week and Space Technology.*

The annual reports to Congress of the Secretary of Defense and the Chairman of the Joint Chiefs of Staff are interesting reading, too, especially as an introduction to Pentagon language and thought. As sources of military information, they are valuable only to those already well grounded in the facts and thus equipped to read between the lines. Available on request from your senator or representative or, for a fee, from Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

WHAT THE MILITARY COSTS YOU

Marian Anderson, *The Empty Pork Barrel: Unemployment and the Pentagon Budget.* Public Interest Research Group in Michigan, 590 Hollister Bldg., Lansing, MI 48933.

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USEFUL DOCUMENTS IN RESEARCHING NUCLEAR WEAPON FACILITIES:

Department of Defense Directive 5210.41, "Security Criteria and Standards for Protecting Nuclear Weapons."

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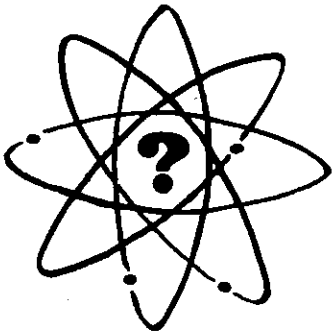
Candidate Environmental Impact Statement Concerning Nuclear Aspects of Naval Weapons Systems Storage, U.S. Navy, 28 March 1978.

The easiest way to obtain government documents is to write a letter to your Congressperson requesting him/her to obtain them for you.



ORGANIZATIONS FOR FURTHER CONTACT

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catholic Action of Hawaii

For over a decade catholic Action of Hawaii has been in the forefront of the movement for peace and justice in the Islands. Growing out of the '60s resistance to the war in Indochina, its members have consistently opposed militarism in all its forms, with strong focus in recent years on the escalating nuclear arms race.

While having no institutional religious ties, catholic Action cooperates with church-related groups and draws strength and inspiration from the deep spiritual roots of nonviolent resistance. The lives and accomplishments of Mohandas Gandhi, Martin Luther King, Dorothy Day and Peter Maurin of the Catholic Worker, and so many others, have been profound influences.

catholic Action is an affiliate of the War Resisters League and is closely associated with many peace organizations; however, with no dues and no membership requirement other than a commitment to nonviolence, "community" rather than "organization" best describes catholic Action's view of itself.

Through its Peace Education Project, catholic Action has reached thousands in schools, churches, and community groups. This book will join the slide show, "Nuclear Hawaii," as an important tool for carrying on the crucial work of educating for peace and justice.

FUND APPEAL

The signs of the times are dangerously clear. Work for peace and justice is urgent and requires the personal commitment and financial support of each and every one of us.

We need your help to develop ongoing educational and organizing materials to make Hawaii and the world nuclear-free. Please give what you can.

Together we can make a difference. The spirit of aloha, hope, and respect for all creation can be born again in each of our hearts.

Mahalo!

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While each chapter in this book has a major contributing author, the entire volume has been a collective effort.

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From the introduction:

If you are reading these words in Hawaii, you are reading them in the most densely militarized state in the nation.

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THE DARK SIDE OF PARADISE is a much-needed investigation of military forces in Hawaii from both a local and global perspective. Hardhitting and well documented, it discloses facts previously unavailable to the public, highlights facts overlooked on the pages of daily newspapers, and tests the assumed "facts" many people take for granted. In a time of increasing public concern over military issues, the authors have done a great service; they offer a complete and coherent account of Hawaii's role as the U.S. Pacific command center and nuclear weapons stockpile. And in a time of great despair, when the arms race poses unprecedented regional and planetary dangers, this book challenges us with a creative vision of our future.

Highly recommended for anyone who cares about Hawaii—and the world.