U. withdraws ATO recognition

By MARY ELLEN CROWLEY

The University of Pennsylvania has withdrawn recognition of the University's former Alpha Tau Omega chapter, which was located on campus until at least September 1984, while others criticized Acting Vice Provost for Student Affairs Mary Koval's statement Friday officially revoking recognition effective immediately.

By GEORGE KOVAL

The University revoked the recognition of Alpha Tau Omega on campus Friday.

Pi Kappa Alpha receives top fraternity status

By MARY ELLEN CROWLEY

Pi Kappa Alpha Alpha has received top national status for outstanding performance on campus and Chi Omega was cited for outstanding performance at the University, by the Advisory Board of Council annual awards banquet.

The fraternity award, known as the Conservation Cup, honors the chapter which has most consistently evidenced excellence in community service, community and campus leadership, academic achievement, and fraternity programs.

The sorority award, known as the Sorority Cup, recognizes the organization's national or international level that has shown outstanding performance in national events and competitions.

Spring Fling concert band is still a mystery

By DAVID TISHMAN

Spring Fling is less than a month away, but a band has not been booked for the concert on Saturday. The Student Activity Board, which runs Spring Fling, is keeping quiet about who will be performing.

Sorority members are looking forward to the concert, but they are keeping their fingers crossed that the band will be announced soon.

A student has charged that she was raped by a group of students at a party.

Inside - A guide to the nuclear forum

The Nuclear Question

The University will host the United Nations Secretary General, Javier Perez de Cuellar, for a series of lectures and discussions on the United Nations and its role in world affairs.

The lectures will be held in the University's month-long observance of the UN's higher priority.

Perez de Cuellar is a former UN ambassador to Israel and is currently serving as the UN's highest priority. The lectures will be held in the University's month-long observance of the UN's highest priority.

Perez de Cuellar's lectures will focus on the present situation of nations armed with nuclear weapons and the future of world disarmament.

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Campus Events

**Walesa speaks to crowd in Gdansk**

The Nobel Peace Prize laureate, Poland's Solidarity union leader Lech Walesa, spoke in the Student Center last night.

"I was not an understanding,� a Black student, "It was a real istock to shock blacks into action, but I wish to say that in the amalgamation..."

"I might send 55% for the radio..." a White woman said. "But I was a judge of the things..."

Several students began to howl, "You are a question of the defense of blacks at Nujon."

"I am a work, calling a list of educating white people..."

**Pi Kappa Alpha named top fraternity**

The Phi Kappa Alpha named top fraternity in the 1982-83 academic year, according to the University of Pennsylvania's Phi Delta Kappa.

"Although I don't know the..." the student said. "I was a real..."

"I hope it is not viewed as a..."

"Well, there is been no definite decision, il..."

"I think the whole thing was..." the student said. "I was something..."

"It was a real..."

"All I can say is forget about..."

**Koval withdraws ATO recognition**

The member of the fraternity said the University of Pennsylvania had explored an investigation of the incident and asked "this is my real..." the student said. "I think the whole..."

"I would have their tour together," he added. "I think the whole thing was..." the student said. "I wish to say that in the amalgamation..."

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"I was a real..."
The writing on the wall

Campus graffiti tells the tale of his and hers

By MARK COHEN

STUDY ABROAD

"On the eighth day God created man. Then he blessed the man and said, 'Fill this world and subdue it...'

What we hold between our eyes and with our hearts.

Every bathroom has a lesbian controversy. I defer to history because so many of them write on the walls. If I get the feeling that they all congregate and must express themselves in odd ways, i.e. bathroom walls.

"Men and women dealt with the situation differently," he said. "Women had to learn to deal with the situation as it is by making money of their environment."

With the advent of men and women living side by side in the same dormitory, a unique socio-sexual situation has been created - the co-ed wall. Males come down their graffiti since it may be read by females. "The graffiti is spurious," he said. "Aerosol art is nothing but words, and words share walls as well as toilets. On the second floor of Thomas Hall the painting got out of hand, and other floor members were miffed. The problem was alleviated when the walls were washed. The students have since curbed the personal attacks.

"Real men hold their urine and wipe with their hands."

"Scum, you should be shot."

"Intelligent people, intelligent graffiti. It's great!"

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Now Play The Best

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A Service of Your University
University Politics: Just Another Three Ring Circus

By Michael Krantz

These Dirt Rat Fans among you may have heard the lovely story about a student who had found a fundamentalist Christian and his wife, both believers in faith healing, guilty of ritualistic neglect in regard to their infant son; in other words, the child was dead. The child was reported missing after the medical help when the baby developed a stomach tumor which grew to be a large tumor. When the baby was opened, the physician who performed the surgery concluded that the God's failure to save his son had in any way hurt his faith, for the only ritual thing he ever did was to pray. "The normal? Some people are going to believe what they feel and think, and some people are going to be more important, regardless of the consequences that they may face."

Case in point: Penn politics. West Philadelphia's answer to Rome, from the Bureau of A. N. P. C. to the great Seal. "But I get off this soapbox, I get more into the detail of what's going on."

A soapbox is all the referring to, for the West Philadelphia student doing free research and making a research at his own cost, the entire community was pleased. The slaves' trip down the Nile early in the season had paid big dividends. The season training blocks the team had purchased produced amazing results as close to transcripts and quotations. It is tough when you're a slave.

The rally was a microcosm of everything that's wrong with the Ivy League. Those members of the March 11 crowd who were approached after the rally had said that their main concern was "We want to get rid of the War," but all the rest of the crowd was talking about the War. It's true that the War is a hot topic, but I'm more concerned about the Vietnam War. I know that the War is a hot topic, but I'm more concerned about the Vietnam War. I know that the War is a hot topic, but I'm more concerned about the Vietnam War.

Perhaps political activism in the 1980's deserves a new formula, one that places the politically aware in the center of the political action. The right-ringers have a lot of mileage yet to wring from the left ringers. Perhaps the rally accomplished only the latter. One is>ue published during graduation week and QM ivs issue published in the summer.

Dear Son Class Board.
The most important decision a body as a whole make is to rid itself of all those who have been found to have deviated from the party lines. This is the main concern of the Son Class Board. The Son Class Board is the official, formal treatment of the case of an individual who has been found to have deviated from the party lines. It is precisely the fear of debate that is killing the left ringers. What are the left ringers talking about? I heard that Sheldon had given a great speech at the rally, but the left ringers have a lot of mileage yet to wring from the right ringers. Perhaps the rally accomplished only the latter. One is>ue published during graduation week and QM ivs issue published in the summer.

SINGIN' IN THE RAIN/Howard Gensler

Walter Scharetz (Left) and Zsa Zebsky (Right)

Two of the most loyal campus reporters who seem to be dedicated to preserving the integrity of the Son Class Board.

Despondency. The name of a soon-to-be-born Messiah in Hebrew, or, rather, the Messiah's name in Greek, because the English version of the name is used more commonly. The Son Class Board is the official, formal treatment of the case of an individual who has been found to have deviated from the party lines. It is precisely the fear of debate that is killing the left ringers. What are the left ringers talking about? I heard that Sheldon had given a great speech at the rally, but the left ringers have a lot of mileage yet to wring from the right ringers. Perhaps the rally accomplished only the latter. One is>ue published during graduation week and QM ivs issue published in the summer.

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Statement on the ATO Decision by George Koval

The following statement was released by Acting Provost for University Life George Koval on Friday, March 25, in response to the actions of the National Fraternity Board after the investigation and hearing of the Tau chapter in February. The statement, released by the Alumni Council and the executive director of the national Alpha Tau Omega fraternity with which the local chapter is affiliated, notes that the matter has been heard by the advisory board and that the chapter has given due weight and consideration to the recommendations. It also states that if the chapter fails to respond in a responsible manner to the actions of the national ATO fraternity, the chapter will be heeded in its decision to take no further action in response to the actions of ATO fraternity.

"Clear expectations have been set for the conduct of fraternities within the University community and the way they are responsible for the actions of their members."
Korean diplomat speaks at U conference

Korean diplomat speaks at U conference

Nancy Knopf
South Korea has made a commitment to normalize economic conditions over the last several years. This speech was given at the United Nations Assembly in New York. The diplomat was South Korea's official representative to the United Nations. In the speech, the diplomat highlighted the progress made in economic normalization and the commitment to further stabilize the economy.

The diplomat expressed the hope that the United States would continue to support South Korea's efforts towards economic normalization. The diplomat also emphasized the importance of the U.S. and South Korea working together to achieve these goals.

The speech was well-received by the audience, who applauded the diplomat for his dedication and commitment to progress.

By Nancy Knopf

Rebel discusses civil war in El Salvador

By Anne Ballen

More than 300 people gathered in the University of Pennsylvania's Tabernacle Church on Thursday night to hear a former U.S. diplomat, who is currently living in El Salvador, speak about the civil war in that country.

The speaker, who requested anonymity, spoke about the civil war in El Salvador, which has been ongoing for more than 25 years. The speaker stated that the war has caused tremendous suffering and has led to the displacement of millions of people.

The speaker also discussed the role of the United States in the conflict, noting that the U.S. has provided military and economic support to both sides.

The speaker urged the audience to support peace and reconciliation efforts in El Salvador, and to pressure their government to support a peaceful resolution to the conflict.

The event was organized by the University's Center for Latin American Studies and was sponsored by the University's Latin American Coalition.

Trustee Emeritus Thomas Gates dies at 76

By Ilana Parsons

Thomas Gates, a former trustee of the University of Pennsylvania, has died at the age of 76.

Gates served on the University's Board of Trustees from 1967 to 1983. He was a leader in the business community and a prominent philanthropist.

Gates was a partner in the law firm of Cravath, Swaine & Moore, where he served as chairman of the firm for many years.

He was also a member of the Board of Visitors of the University of Pennsylvania and a member of the Board of Trustees of the University of the South. Gates was a strong supporter of the University's academic programs and was a frequent donor to the University.

He leaves behind his wife, Joan Gates, and three children.

Gov. Mayoral candidates to meet on campus today

By Joanne G. McQuaid

Mayoral candidates from both Democratic and Republican parties are scheduled to meet on campus today to discuss issues related to the city's development.

The event is being held at the University of Pennsylvania's Wharton School and is expected to draw a large audience.

The candidates are expected to discuss a variety of topics, including education, transportation, and economic development.

The meeting is being organized by the University's Center for Urban and Regional Policy and is open to the public.

The meeting is scheduled to take place from 10 a.m. to noon on Wednesday at the Wharton School.

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The Philadelphia Inquirer

March 28, 1983


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Legal Altruism
Forum addresses public interest law
By ALICE HARRIS
Women are doing the best they can, but they're not getting any of the credit they deserve, according to formulation developer Robert Draper Drissel said Friday at the "Do It, and I'll know what it is." The conference was funded primarily by the Pennsylvania Humanities Society and added to the Jadice, a group for women's rights.

And many participants said the papers, workshops and discussions were just what the Law School Professor Paul Ralston said at the conference that the Pennsylvania Bar Association, which had just given up its only purposeful discrimination case, was so good. Hearing about public interest issues and meeting people who were really enthusiastic

"But we're going to go out of business without talking a public interest law, his group provides in-home health care to thousands of other people with children, and talked with the Women's Rights Group about the issue. They were concerned about the issues that Drinan serves on the Appropriations Committee, noting that a third of his committee's work is on space, the Environment and Interior, including the Reagan's recent severe cutbacks in appropriations and the Interior's Laboratory for Research Into Public Health Care. Drinan said the House Appropriations Committee has been cutting almost as much as the Senate Appropriations Committee, which is responsible for funding public health care. Drinan said the Appropriations Committee has been cutting almost as much as the Senate Appropriations Committee, which is responsible for funding public health care.

Non-profit organizations such as the Public Interest Law Fund, which raises money for public interest issues, and the Philadelphia Bar Association have been cut back, said Drinan. These organizations are "the legal equivalent of a fire department," he said.

The conference was well organized, said Drinan, and the participants were very engaged. "It's a great thing that's happening," he said.

"We felt that women's bodies were at the center of women's oppression, and that the legal system was a part of that oppression," said Drinan. "We wanted a conference that would bring together all these groups and organizations to talk about these issues."
Summer at Adelphi takes the heat off school in the fall.

There are so many good reasons to be part of Adelphi Summer Sessions. Harold, an economics student, describes his experience: "I knew I wanted to go to Adelphi for my summers. The flexibility of the Adelphi Summer Sessions was the perfect solution for me." Here are some other reasons to consider Adelphi Summer Sessions:

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- **Professional Development:** Enhance your career prospects with professional development courses.
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M. Tennis is perfect in defeat of Temple

By STEFANIE KRAJNOW

Practice makes perfect, or so the saying goes. For the Temple women's tennis team, the saying seemed to hold true this past weekend. The Owls claimed a victory over the Quakers, with a score of 6-1, and followed up with a decisive 7-0 victory over Swarthmore.

The regular season in tennis consists of three sets of matches. The sets are played on a best-of-three matches basis. The first match was won by the Owls, and the second was won by the Owls. The third match was won by the Owls.

The Owls claimed a victory over the Quakers, with a score of 6-1, and followed up with a decisive 7-0 victory over Swarthmore. The team was led by the singles players, who were victorious in all three matches. The doubles players also contributed to the Owls' victory, with all three pairs winning their matches.

The Owls are now 1-0 in conference play and 7-4 overall. They will look to continue their winning ways in their next match against Villanova.

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The Owls are now 1-0 in conference play and 7-4 overall. They will look to continue their winning ways in their next match against Villanova.
By DAVID GOLDBERG

The week was good from quitter Jeff Hill decided that it was time to take a cut. For two weeks, Hill had been training indoors for a year. Finally, the pressure of competitive commitments was too much. He decided to take the time off to recuperate.

On Saturday, Hill returned from the injured list and worked the seconds in the 200 and 400 meter relays for the Quakers. He is expected to return to full competition next week.

The Red and Blue finished with 114 points, far outdistancing Lehigh, who finished second with 60 points. Hill's return to the track is a big boost for the Quakers, who are looking to improve on their third-place finish from last year.

As for the meet itself, the Quakers were able to win the team title, which they have done in the past. However, they will need to perform better in the upcoming Ivy League meet to have a chance at a conference title.

In the women's portion of the meet, the Quakers were also able to win the team title. They were led by senior October Morris, who set a new school record in the 100 meter hurdles.

Overall, it was a good day for the Quakers, who were able to compete against some of the top teams in the country. They will need to continue to perform well in the upcoming meets to have a chance at a conference title.
OVERCOMING BIAS

The Daily Pennsylvanian's Guide to the University of Pennsylvania Forum, "Toward Preventing Nuclear War"

- STRATEGIC AND DETERMINATION
- Important Questions
- What is the Freeze
- COUNTDOWN MISSILE
- EVERYONE KNOWS
- TACTICAL NUCLEAR AFFECTS OF NUCLEAR WAR
- KEEPING UP WITH THE SOVIETS
- Strategies and Scenarios
- SUCCUMBING TO FEAR
- A History of Disarmament

PLUS

A Complete Schedule of the Month's Events
On Overcoming Bias

By Robert Lalasz and John S. Marshall

Humanity, as Borges said, is a forgetful creation. But ours is perhaps the first generation of humanity which has never had occasion to remember — much less forget. We have fought no great battles, won no substantial victories, suffered no tragic defeats. And with little or no knowledge of our personal history or the history of our civilization, we condemn ourselves to lives of continual presents, without perspective or understanding. With such a penchant for ignorance, it is small wonder we continually find ourselves unable to confront dangerous, confusing situations — such as the arms race.

The University’s current forum “Toward Preventing Nuclear War” is a badly needed step toward eliminating the ignorance and irrationality that surround the most crucial issue of our time. As with most controversial subjects, discussions of the arms race and disarmament are far too often faced with emotional, superficiality, or guilt. But this forum seeks to educate not only the uninformed, but the semi-informed — the occasional reader of Time, the smug viewer of The McNeil-Lehrer Report, the cynical practitioners of partisanship.

When testing nuclear weapons, military experts must overcome the effects of “bias” — the difference between the center of the impact pattern of several launched ICBMs and the intended target. Like the missiles’ free-falling warheads, every human being has a bias. A large part of overcoming that bias entails positioning oneself in the paths of other opinions, other schemes, other ideologies. Only then can one approach the informed objectivity required to evaluate issues as volatile as those being discussed right now at the University.

We intend this publication to truly serve as a supplement to the forum — something to be used again and again in the process of education. We are not experts, nor do we pretend to be. But we have tried to give a sophisticated and readable account of the most important facts and attitudes about the nuclear weapons question. We can only hope that you will be encouraged by our forays to delve further into these topics, and to make decisions for yourself.

As editors and writers, we are also not free of bias. If you question this supplement’s staff, you will find that most favor a bilateral nuclear freeze and that most do not accept the jargon emanating from either Washington or Moscow. True objectivity is perhaps impossible and certainly elusive, but we have tried at all times to subsume our own bias into the ideal of a free marketplace of ideas. Only you can judge whether we’ve succeeded.

Here’s to a first strike against ignorance.

The University as Forum

By Sheldon Hackney

Almost half a century ago, Franklin Delano Roosevelt stood on Franklin Field to accept his nomination for the presidency, proclaiming that “this generation of Americans has a rendezvous with destiny.” Those words from 1936 are even more relevant at present, in an age when our world is kept in fear by international tension and the threat of nuclear war. Today we begin a month of events that comprise the University’s public forum, “Toward Preventing Nuclear War,” a program that addresses our current “rendezvous with destiny.” I welcome all to attend these activities, to participate in the discussions, and to share your thoughts by submitting essays and letters to the various campus and city publications. In these ways you can contribute to the consideration of the most vital issue of our time.

We thank Tony Marx, Steve Heyman, Michael E. Weiner, and Peter Canella for their contributions and support. Special thanks go to the Center for Defense Information and the United States Department of Defense. Our apologies and thanks to Michael Nachus; whose piece on the economics of the arms race could not appear because of space constraints.

I am particularly pleased that the forum is the product of a special partnership of people and organizations within the University and Philadelphia communities. A large number of citizen and professional groups, including the World Affairs Council, the League of Women Voters, Physicians for Social Responsibility, and Lawyers’ Alliance for Nuclear Arms Control, have helped organize these events. The Society of Friends has helped with publicity and The Philadelphia Inquirer has been particularly generous in its assistance. With the cooperation of these and other groups, we have invited the citizens of Philadelphia to attend all forum events, free of charge. I am sure that everyone on campus will make all our visitors feel at home and welcome this opportunity to bring the University and the city together.

Our forum is also a “One University” event. This is evident in the wide variety of people involved in organizing the program — liaison groups within each School, an Advisory Committee comprised of students and faculty from throughout the institution, and the array of student and campus groups having their own programs. Many of our faculty members teach and do research in areas related to the prevention of nuclear war, and a wide variety will “respond” to guest speakers and participate in panel discussions. This forum is the product of the efforts of many people. We hope it will benefit many more.

Finally, I believe that I speak for the University and the City in expressing gratitude to all who will help make this forum a success. You are all too many to mention here, though the pride you will surely feel for your work should be a rich reward.

The stage is set. Let us come together to explore the paths to peace.

Sheldon Hackney is President of the University of Pennsylvania.

The MX Missile must overcome the effects of bias to achieve the level of accuracy it needs to hit a Soviet missile silo.
In Medical Terms, a Mess

April 5th 7:45 p.m.
Medical Consequences Of Nuclear War

Professor Stanley Baum, University of Pennsylvania
With the film The Last Epidemic
A presentation of Ware College House and the Pre-Med Honor Society
High Rise North Rooftop Lounge, 3901 Locust Walk

By John Monsees

The quiet of the early morning city was disturbed by the drone of a low-flying plane. The gardener looked up from his trees to the sky, expecting to see a fleet of enemy bombers ready to rain fire on his home. Catching a glimpse of a single plane, he felt a surge of relief. One of ours, he thought, and then there was a fierce white heat everywhere, as if a piece of the sun had fallen to the earth.

Some weeks later a corpse removal team, whose own members were slowly dying from their festering burns, began to search through the rubble of the gardener’s neighborhood. Beneath the ashes to the garden’s members were slowly dying from their festering burns, began to search through the rubble of the gardener’s neighborhood. Beneath the ashes of what used to be his house, the shuffling workers did not find the gardener’s body — only his silhouette, burned into a stone wall.

Two Gruesome Lessons

In 1945, the only two atomic bombs ever exploded over cities produced medical effects unparalleled in the history of the world. The object of scientific and military scrutiny for decades, these effects are still not completely understood. But the study of written reports and photographs from Hiroshima and Nagasaki, combined with extensive monitoring of the surviving population, shows that the physical devastation paled next to the toll exacted on human life. Enough is known about the bombs and about today’s nuclear arsenals to draw an undeniable conclusion: a nuclear exchange today would make the destruction — and carnage — of Hiroshima and Nagasaki seem insignificant by comparison. But if anyone is to learn anything about nuclear war, the lessons must begin with the only two case studies available. The sprawling city of Hiroshima had a population of 300,000 on the morning of August 6. The sun set that day on a scorched ruin strewn with 45,000 dead and 84,000 injured. In the following months 33,000 more people died as a result of blast wounds, burns, or radiation exposure.

Nagasaki was bombed three days after Hiroshima. Because the city was built on hilly terrain which provided a measure of protection, the physical damage was less encompassing. The medical effects were just as horrifying. The city which had boasted a population of 87,000 suffered casualties of 27,000 dead and 41,000 injured.

The bombs wreaked their destruction in three ways: 50% of the total energy was released as physical blast and shock waves, 35% as thermal radiation, and 15% as nuclear radiation.

Most of the immediate fatalities were caused by the force of the initial blast. In Hiroshima, wooden structures within a 2.5-kilometer radius from ground zero were blown away and stone structures were knocked flat, crushing any occupants. Tons of debris were carried on the blast wave, and the hurling projectiles instantly killed many people outdoors within the blast radius.

The most common form of injury among blast survivors was severe flash burns produced by thermal radiation. Although the Hiroshima explosion ignited a firestorm that raged for six hours, medical surveys found that approximately 90% of the burned survivors suffered burns caused by the sudden absorption of thermal radiation through exposed skin tissues. People in exposed places as far away as two kilometers from ground zero were directly burned so extensively that 75% died within two weeks of the explosion. thermal radiation survivors often disfigured because third-degree burns destroyed their skin layers so thoroughly that they never regenerated properly.

Many who did not die from the blast or thermal radiation succumbed to the effects of nuclear radiation within three to four weeks after the explosion. The severity of the symptoms was dependent on the intensity of radiation received. Radiation intensity is measured in "rads." A dose of approximately 400 rads will cause radiation sickness and an anticipated death rate of 50% within two months. The symptoms of radiation sickness include vomiting, hair loss, a reduced white blood cell count, and a weakened immunity system. At intensities below 1,000 rads, radiation primarily affects the body’s circulatory and immune systems, making the victim highly susceptible to death by disease. Those exposed to dosages greater than 1,000 rads have no hope for recovery and will die within two weeks.

Survivors of the Hiroshima and Nagasaki blasts exposed to less lethal nuclear radiation dosages (under 400 rads) were subject to the long-term somatic and genetic effects. Over time, they suffered greater incidences of cancers, such as leukemia and thyroid cancers, than the general population of Japan. Pregnant women bore a significantly higher number of mentally retarded children. While radiation is known to cause genetic mutations and chromosomal aberrations, not enough time has passed to observe any chromosomal damage among the survivors.

Thinking About Philadelphia

The implications of the Hiroshima and Nagasaki bombings for today are mind-boggling. A 10-kiloton nuclear weapon (approximately half the strength of the Hiroshima and Nagasaki bombs) will emit a dose of 1,000 rads over one kilometer away from ground zero. Current U.S. and U.S.S.R. arsenals commonly deploy fusion weapons of 20 megatons, or 1,000 times the energy of the Hiroshima blast.

While the Hiroshima and Nagasaki bombs were detonated in the atmosphere, minimizing nuclear fallout, Armageddon scenarios today expect surface blasts to produce highly radioactive fallout, ensuring an even greater number of casualties. A 20-megaton nuclear warhead detonated on the ground would create a fallout zone of 50 kilometers downwind so lethal that half the unprotected population would die of radiation exposure within two days.

The nuclear war strategies of the United States and the Soviet Union begin with the concept of a massive, multtargeted first strike. It has been estimated that a 20,000 megaton attack on the United States — an amount of energy available to a superpower — could saturate the entire country with enough radioactive fallout to kill 95% of the nation’s unprotected population.

Consider a conservative estimate of the damage Philadelphia would sustain if it were targeted. An official government study discusses a hypothetical nuclear attack on the city's oil refineries. Two one-megaton warheads detonated in separate groundbursts in Southwest Philadelphia would instantly kill an estimated 135,000 people, or 87% of the inhabitants of the area within a two-mile radius from each of the ground zero points.

The entire campus of the University of Pennsylvania would lie within this zone. Under ideal conditions, a radiation victim has a chance of recovery with blood transfusions and bone marrow transplants. But a surviving student could not expect aid from Student Health, as the entire University Hospital complex would be in ruins.

In the area within a five-mile radius of the ground zeros, 410,000 more Philadelphians — 52% of the residents of this additional area — would be killed immediately. The blasts would severely damage many Philadelphia medical facilities and kill or injure many medical personnel. As in Hiroshima and Nagasaki, this would result in countless additional deaths. And depending on wind direction at the time of the explosions, radioactive fallout could kill an additional hundred thousand people in the Delaware Valley.

Even if the world’s nuclear arsenals are never used, their very existence endangers world health. Radioactive fallout from atmospheric weapons tests causes increases in world "background" radiation, believed to have helped increase cancer incidence worldwide. And although the superpowers concluded the Nuclear Test Ban Treaty of 1963, not all nuclear nations are signatories: the People’s Republic of China, for example, has continued to test nuclear weapons in the atmosphere. The possibility of terrorists deploying weapons made with stolen materials also threatens the public. Not to mention the chance of accidents.

The Unimaginable Reality

The destruction of Hiroshima and Nagasaki is horrifying. But given man’s penchant for inventing — and using — weapons of greater and greater lethal capabilities, it is understandable. A nuclear attack today would produce medical consequences so staggering as to defy the imagination. If the governments which wield nuclear weapons are not truly cognizant of the medical consequences of unleashing those weapons, perhaps they are ignorant of them.

But the day may arrive when they cannot ignore them.
A History of Disarmament: Succumbing to Fear

By Robert Lalasz

The American Monopoly

The Western powers first attacked the problem of nuclear weapons by taking a Briand-Kellogg approach—trying to eliminate them altogether. On November 15, 1945, the United States, Great Britain, and Canada, which had combined their wartime efforts in making atomic bombs, and thus had lost the genie, proposed in the face of world outcry that it be returned to the bottle. They asked that a United Nations Atomic Energy Commission be established for the purpose of "entirely eliminating the use of atomic energy for destructive purposes."

But the Commission served a further purpose than a symbolic one to global sentiment. It also fueled in the public consciousness the proposition that the U.S. might give up its new weapon, despite the temporary damage to its strategic posture. Ironically, this gave the U.S. the moral freedom to use that weapon if the Red Army went on the march.

Proposals to eliminate the atomic bomb strengthened the national security of the United States and its allies by adding credibility to the threat of retaliation. Through its "ban the bomb" campaign, the Soviet Union attempted to portray the bomb's development and use as immoral... until it detonated its first nuclear device in 1949.

The Baruch Plan

At the first meeting of the Atomic Energy Commission on June 14, 1946, U.S. representative Bernard Baruch offered a plan which became the formal starting point of postwar disarmament negotiations. Boldly proposing the collective management of all atomic energy devices or activities "potentially dangerous to world security," Baruch argued that "we are here to make a choice between the quick and the dead... We must elect World Peace of World Destruction."

The Baruch Plan stands as one of the more ingenious and magnanimous diplomatic gestures in history—often taken at face value. William R. Frye and other historians argue that, in Soviet eyes, the Plan threatened to indefinitely perpetuate the American monopoly over atomic hardware and knowledge. Frye writes that the "capitalist West as [Joseph Stalin] saw it, would own, manage, or licence a substantial segment of the Communist economy, that segment which would be related to or dependent upon atomic power." For this reason or because the U.S.S.R. desired its own bomb, the Kremlin rejected the Baruch Plan. In what was to become the Soviet kimono, Commission delegate Andrei Gromyko demanded that atomic weapons be prohibited by decree. The two superpowers had assumed antipodes, producing a frustrating period of deadlock that ended with the first Soviet nuclear detonation in September of 1949.

The armistice was on. In 1950, France's Jules Moch warned with a low voice that the "point of no return" had already been passed, that both the U.S. and U.S.S.R. had produced so much inadmissible material that no inspectorate could be sure of verifying that all nuclear materials were being used for peaceful purposes.

Neither the U.S. nor the U.S.S.R. could now rationally contemplate eliminating its country's nuclear arsenal in such an atmosphere. And since complete disarmament was no longer under serious consideration, it was dishonest to go on proposing that such a treaty be drafted.

A new approach was clearly called for—and the Cold War provided fertile ground for one. Whether the Soviet Union or the United States was responsible for the Cold War is irrelevant; both parties eagerly waged a cold war with such ardor that arming and rearming were easily facilitated. The establishment of Communist regimes in Eastern Europe, the enunciation of the Truman Doctrine, the formation of NATO, the Korean War—action and reaction followed with bewildering speed, turning the chilly wind into a blinding blizzard.

The United States, which had quickly dismantled its huge conventional military machine after the end of the war, concentrated on developing a family of nuclear arms—strategic weapons to be delivered by long-range bombers capable of striking targets in the Soviet Union, and tactical weapons for battlefield use in Central Europe. The result: an overwhelming U.S. advantage in all facets of atomic weaponry.

But although information about the Soviet nuclear build-up was sketchy in the early 1950s, their back-breaking efforts to catch up with the Americans were obvious. In the summer of 1952, a study group of American scientists from MIT concluded that in two or three years the Soviet Union would have sufficient long-range strategic power at nuclear war to cripple the United States in a surprise attack—a view coincided with the reverse "missile gap." The result: a new doctrine of "massive retaliation".

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already under heavy world censure for endangering the atmosphere with surface nuclear detonations, the United States and the Soviet Union realized that the time for action - albeit symbolic - was now.

Their answer? The Partial Test Ban Treaty (PTBT), a direct ban on all testing above ground. Cognizant that the arms race was now a contest for the laboratories and drawing boards to decide, the Americans and the Russians yearned to limit the proliferation of nuclear weaponry sophistication while each strived for an advantage over the other. In a large measure, they succeeded.

Some consider the PTBT as perhaps the most effective treaty in arms control history. In fact, the treaty did not impose any practical restraints on testing. In the eighteen years between 1963 and 1981, the U.S. conducted 164 nuclear tests (of which 3 were underground) and the United States 282 tests (of which 89 were underground); in a ten-year period after the treaty signing, the Soviet Union conducted 906 underground tests and the United States 259. The rate of testing increased considerably - by 33% in the U.S.S.R. and 65% in the U.S. Both countries were hardly models of restraint.

In fact, the 1963 treaty was also an expression of sizable and the U.S.S.R. to upgrade their delivery systems and warhead capabilities. As a result, the overall capability of the superpowers was multiplied by a factor of three to 10.

**Pass the SALT**

The degree of mistrust between the United States and the Soviet Union hardly changed between the Sixties and the Seventies - but at least this decade around, the two came clean about it.

After three years of arduous negotiations, in the spring of 1972 that the U.S. and the U.S.S.R. signed the Strategic Arms Limitation Treaty, which set ceilings on the number of selected offensive weapons and anti-ballistic missiles (ABMs) allowed to both powers. The anti-ballistic portion of the treaty called for deployment of no more than 100 ABM launchers and missiles at each of two sites in their respective countries.

Former Defense Secretary Harold Brown has called the ABM treaty (the only portion of SALT I re-ratiified) "the most important achievement among all the arms control discussions, treaties and interim agreements and other understandings..." The rationale is that, since neither side is permitted to defend itself, neither can afford to attack the other in self-defense. On the whole, however, SALT I appears severely limited and unabashedly political, although it limited the "destabilizing" factor of anti-ballistic missiles. It failed to deal in any but a cursory way with the sophist in offensive capabilities of both countries and thus failed to address the heart of deterrence.

The Vladivostok agreement in November 1974, however, was hailed as a "breakthrough" that put the spirit of the Vladivostok Accords of its military systems. It was a "self-defense" agreement between the United States, which has the largest number of nuclear weapons, and the Soviet Union, which has the second largest number of nuclear weapons, until December 31, 1985, on the basis of parity between them.

But while the agreement was said to establish ceilings well below the levels that otherwise could be operative in ten years, the ceilings established are substantially above the levels that each side had at the time, and are even higher than those envisioned for 1977 under the Interim Agreement. Consequently, Vladivostok did nothing to restrain significant qualitative or quantitative improvements of offensive weapons.

**Detente**

Fate, however, did not leave the abolition of such preclusions to the 1978 SALT II accords. Talks bogged down in 1976 amidst charges that the Russians were ignoring the spirit of the Vladivostok Accord by expanding their strategic forces and a subsequent right-wing political backlash against President Ford. When President Carter took office in 1977, however, renewed emphasis was placed on SALT II. Secretary of State Cyrus Vance made a comprehensive proposal to the Soviets calling for significant reductions in both qualitative and quantitative constraints on the Vladivostok offensive ceilings.

But in reality, such an agreement would have severely inhibited the Soviet desire to improve and expand their atomic arsenal. The question of ceilings again came into play - and the Soviets rejected it. When the final version of SALT II was signed in 1979, it contained little more than an extension of the Vladivostok accord and a pledge to continue strategic negotiations in SALT III talks.

The U.S. Senate, however, all but killed that hope with its refusal to ratify the treaty in 1979, and when Carter withdrew his support for the treaty in 1980, the superpowers were back to ground zero.

**Just Like Starting Over**

The inauguration of perhaps this country's most hawkish president in 1981 ushered in yet another era in the superpower arms race. Armed with harsh rhetoric and a shrewd grasp of the political, Ronald Reagan distanced himself from the SALT accord and, in his Eureka College arms speech of May 1982, proposed the Strategic Arms Reduction Talks (START).

Ostensibly, START is a drastic improvement in communication between the United States and the Soviet Union. Washington's Retired General Edward Roweny and Moscow's Victor Karpyov are frankly discussing the superpowers' long-range missiles and warheads. The latest U.S. proposal, offered last June, suggests a limit for both parties of 5,000 warheads on no more than 800 long-range missiles (land- or sea-launched) while restricting land-based warheads to 2,500. But a major Soviet objection to the United States plan is that Moscow would have to eliminate a greater number of its huge, land-based missiles than would Washington, which has a heftier portion of its force in subs and bombers.

In turn, Rowen/H refuses to accept Moscow's suggestion that the American force make do with aging systems. Experts now foresee another agreement which may set even higher ceilings than the Vladivostok Accord, simply facilitating another escalation of the arms race.

And Reagan's dramatic March 25th proposal for the research of a multi-billion dollar anti-ballistic missile system may escalate that race into a sprint. The President has re-opened a decade-old argument by declaring that the United States "must pursue our goal of defensive technologies" and achieve the capability to "intercept and destroy ballistic missiles before they enter the atmosphere".

Confusion has already arisen over whether this proposal violates Article V, Section 1 of the 1972 ABM treaty, which reads, "Each party undertakes not to develop, test or deploy ABM systems or components which are sea-based, air-based, space-based or mobile land-based." Secretary of Defense Caspar Weinberger calls Reagan's proposal "fully consistent" with the treaty's restrictions on "development"; the Soviet news agency Tass and some American experts maintain that "research" and "development" are virtually indistinguishable.

But larger questions have arisen over the viability of the Reagan proposal. Thomas Karas, a high-tech military systems consultant to the Congressional Office of Technology Assessment, has dismissed it as "a fantasy" the idea of targeting and destroying all enemy weapons in a large scale attack. And William Jackson, Jr., a specialist in military technology at the Brookings Institute in Washington, has called the plan "hazared."

"Even assuming we could find such a system," Jackson told The Philadelphia Inquirer, "the Soviets are bound to read this as preparation for a first [nuclear] strike." For some, Reagan has challenged the Soviets to enter once again into a competition for the development of new defensive weaponry.

In another policy shift, the President is expected on March 31 in Los Angeles to declare that an interim reduction in European arms is the only practical way to stop the Soviets from adding to their 600 missile arsenal targeted on NATO allies.

Reagan and Paul Nitze, head of the U.S. delegation to the Intermediate-Range Nuclear Forces Talks (INF), had been holding out for the "zero-option," under which NATO would halt December deployment of 572 U.S. Pershing II and cruise missiles in Western Europe if the Soviets agreed to dismantle all their intermediate-range missiles. But the Soviets rejected the "zero-option" - and at this writing, Nitze is expected to offer the new ceilings when the talks resume in early June.

At present, however, the Soviets have not withdrawn their threats to deploy 85-20's in Cuba if proposed U.S. Pershing II missiles are delivered to Europe. Clearly, "destabilized" does not describe this situation.

**Now or Never...**

As an official document of the Dutch government states, "The history of disarmament negotiations is a discouraging one." Since 1946, dozens of proposals have been exchanged between the Soviet Union and the United States, hundreds of official conferences have taken place, thousands of official and non-official studies have been published - all in the fields of disarmament and arms control. Yet all these activities have led to less than meager agreements and resolutions between the superpowers. And in spite of all these efforts, the arms race continues to escalate, uncovering new hues in the spectrum of terror.

But even if the road to nuclear disarmament is a long and difficult one, there is no alternative: peace demands the prevention of nuclear war. And it appears to many that if disarmament is to become a reality, the commitment to mutual deterrence through a balance of terror must be discarded. A 1980 United Nations report stated that a "significant improvement in the atmosphere of world peace, stability, and balance through the process of deterrence is perhaps the most dangerous collective fallacy that exists..."

Yet Ronald Reagan's recent proposals appear to many to take the concept of deterrence one step further, encouraging distrust and technological competition between the superpowers. Ironically, it was Henry Kissingers who posed the question that the superpowers have not answered in 35 years of negotiations. "One of the questions we have to ask ourselves as a country is: What in the name of God is strategic superiority?" he asked at a 1974 press conference. "What is the significance of it? What do you do with it?"

The world has strained without answers to these questions since 1946. Without a significant shift in the attitudes of the superpowers, such silence undoubtedly will continue.

The history of fear shows every sign of repeating itself.

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*On June 12, 1982, 750,000 people came together in Central Park to protest the arms race.*
1. Is a nuclear freeze verifiable?

**YES**

By David Dormont

No President and no Congress would ever approve a bilateral nuclear freeze treaty without first understanding that it was not only non-verifiable. According to former CIA Deputy Director Admiral Bobby Inman's speech at the University earlier this year, the United States intelligence community views it as means to monitor a freeze.

A freeze would prohibit new production and deployment of nuclear weapons, whereas the major function of SALT I and II was to limit the deployment of intermediate range nuclear missiles that each side could build. The main purpose of any verification system is to count delivery systems and each side's nuclear weapons. But the three present methods of verifying a freeze are electronic surveillance, covert and overt observation – capable of spotting Soviet transgressions.

Electronic surveillance information is received from three sources: U.S. satellites which take detailed pictures and infrared scans of the Soviet Union; U.S. spy planes which transmit more detailed photographs; and reconnaissance aircraft used to detect Soviet buildings caused by nuclear detonations. Only one of these three methods is needed, so if you were to get rid of the three, you would be left with just one. The photographs are used to identify specific locations and to detect test sites of nuclear devices underground.

2. Would a nuclear freeze give a distinct advantage to the Soviet Union?

**YES**

By Frank Luntz

An immediate nuclear freeze would increase the odds for a fatal confrontation between the superpowers. A freeze would allow the United States and the Soviet Union to plan a nuclear freeze treaty as a means to build a new world order, while also stopping the development of new nuclear weapon systems. The freeze would ensure that both nations have similar levels of nuclear weapons, thus preventing either side from gaining a nuclear advantage. Moreover, a freeze would provide a mechanism to verify compliance with the treaty, ensuring that both nations abide by the terms of the agreement.

3. Is there any point to a weapons freeze when third-world nations are building up their own nuclear stockpiles?

**YES**

By Bob Hughes

The United States, the Soviet Union, Great Britain, France, and Israel have the bomb. India has detonated its own nuclear device. South Africa both pro-duced and exploded its own nuclear device in 1995. Ironically, the same is true of other “Nuclear Club” members and efforts continue to develop a nuclear weapon. If a freeze were to be implemented, it would prevent the proliferation of nuclear weapons to other countries. Moreover, a freeze would help to reduce the overall number of nuclear weapons in the world, which could lead to a reduction in the risk of nuclear war.

The United States and the Soviet Union have relatively large stockpiles of nuclear weapons, while other countries have smaller quantities. A freeze would limit the growth of nuclear arsenals, ensuring that the global nuclear arsenal remains under control and that the risk of nuclear war is minimized. It is essential to prevent the proliferation of nuclear weapons and to establish a global nuclear weapon-free zone.
4. Can nuclear arms be controlled effectively without a bilateral nuclear freeze?**

**YES**

By Michael Mahoney

When the Senate failed to ratify SALT II in 1980, the United States cited the “momentum” in the arms negotiations with the Soviet Union. Although the bilateral negotiations between the U.S. and the U.S.S.R. had never resulted in a freeze on the number of nuclear weapons, the Soviet Union and the United States had agreed to reduce their nuclear arsenals by 15 percent. This freeze should be fought, for in many to protest. For this reason, the U.S.S.R. cannot achieve 100% of its national security objectives.

By David Donabedian

A bilateral nuclear freeze is not the only way to accomplish a reduction in nuclear arms. Nor is it the best way. However, the nuclear freeze leads to an atmosphere of uncertainty and may precipitate a potential disadvantage. There has never been, and probably never will be, a sincere “good will” gesture by the two superpowers.

5. Is it possible to disarm a reasonable and/or desirable goal of arms control?**

**YES**

By Mark Bernkopf

The grassroots disarmament movement in America and Western Europe has been fueled by two years of the Reagan Administration’s unilateral policies. The LaRouche movement and other grass-roots organizations have called for the possibilities of nuclear war. Disarmament and nuclear freeze advocates, for their ideological goals, have initiated a global community of nuclear war and nuclear weapons. We cannot shrink from facing the truth of what is at stake – the implications of nuclear war for our national security.

**NO**

By David Colton

The possible destabilizing effects of a strategic nuclear arms race are a concern of the entire global community. This is manifested in the increasing pressure for American-Soviet arms control agreements from both foreign and domestic sources. There is a move to end the arms race as soon as possible.

The proposed arms control agreement is both the best and the most practical one. It would require the United States and the Soviet Union to reduce their nuclear arsenals by 50% and to freeze development of new nuclear weapons. This agreement would be a significant step towards a more secure world. It would also serve as a model for future arms control negotiations.
The Morality of Destruction

April 14th 7:30 p.m.
Peace Fair
Father Robert Drinan, Georgetown University;
Arthur Waskow, Menorah Journal; Carolyn M. Craft,
Longwood College, Virginia
To be followed on April 15th and 16th by Workshops
(call 387-3268 for information) and a Community Peace Fair
(call 386-1530 for information). A presentation
of the Religious Foundations at Penn Christian Association, 3601 Locust Walk

By Mark Broitman

In 1945, in the center of Nagasaki stood an uncommon sight for Japan - a Roman Catholic cathedral. And when one of the two nuclear bombs ever targeted on human beings was detonated, the epicenter of its massive explosion - ground zero - was that very cathedral.

Nearly 40 years later, the tables have symbolically turned. Organized religion in general, and the Roman Catholic Church in particular, are fighting back in the war against nuclear arms. Religious groups are marching into the battle under the flag of morality, thickening what for other lobbyists is purely a political plot.

The battle is waged on college campuses, in meeting halls, in Washington. The soldiers are drafted through groups called "peace committees" and "peace fellowships." They parade, lecture, lobby, educate - and maintain that recently increased public awareness of the issue proves they are making progress toward their goal of a multilateral freeze in nuclear arms. And although the broader concept of non-violence was a part of religious doctrine long before anyone even conceived of such things as nuclear bombs, the small, quiet groups of "pacifists" which formed the roots of the current movement have grown into a force much larger - and decidedly not passive.

Most members of religious disarmament groups agree that enthusiasm for the freeze movement has only peaked with less effort in World War I. American religious groups began to question this argument, particularly the so-called "Peace Churches" - the Mennonite and Quaker groups dedicated to non-violence.

"It started to become clear that it is not military personnel who are the real victims of war - it's innocent civilians," says the Rev. John Scott, director pro-tem of the University's Christian Association.

The 1945 bombings emphatically drove this point home. He continues. "Hiroshima and Nagasaki were not military targets - they were supposed to serve as an example. When nuclear weapons are involved, there's no way of limiting bombing to military targets."

The Roman Catholic Church has been slower to respond to this thinking than its more liberal members. Yet, Sister Anne Boniface maintains, it was church statements which first prompted the mainstream Catholic community to begin serious consideration of the nuclear arms question. The first of these, issued by the 1965 Vatican Council II and entitled "The Church in the Modern World," contained a chapter which took the first step toward updating the bishops' archaic positions on war.

"Any act of war armed indiscriminately at the destruction of entire cities or of extensive areas along with their population is a crime against God and man itself," the document proclaimed. "It merits unequivocal and unhesitating condemnation."

The paper, however, equivocated on the doctrine of nuclear weapons as a deterrent to war. "The defensive strength of any nation is considered to be dependent on its capacity for immediate retaliation against an adversary," it noted. "Hence this accumulation of arms, which increases each year, serves, in a way heretofore unknown, as a deterrent to possible enemy attack." But disarmament supporters hold that the document's strength lay in its encouragement of clergy and laity to make up their own minds about disarmament.

"Vatican II got people thinking," says Sister Anne Boniface. "It provoked them to be more responsible. It told the laity to make their own moral decisions - they didn't have to wait for the priest to tell them."

It was also the spiritual basis for the more detailed document which the U.S. National Conference of Catholic Bishops released last November. This is "the most serious document the church has ever made, here, abroad, or in the Vatican," to come "grapple with nuclear war," Peter Steinfelds, the editor of the liberal Catholic magazine Commonweal, told Time in August.

Serious it is, although still more conservative than many disarmament advocates in the church would have liked. It took more than a year of debate to hammer out the final version, in which the bishops took an aggressive middle ground. Rej ecting completely the first use of nuclear arms and retaliatory nuclear strikes against civilian populations, they toughened their line on deterrence and advocated a multilateral freeze in weapons production and deployment. "A temporary toleration of some aspects of nuclear deterrence must not be confused with approval of such deterrence," they wrote, according to a report in Commonweal. Yet, they refused to call for immediate disarmament.

The bishops were not the only group of religious leaders who published a statement on nuclear war last year. Jewish organizations as well have begun to issue resolutions on nuclear arms, according to Jeffrey Dekro, national administrative director of New Jewish Agenda, a national peace organization.

Partly because of the Agenda's lobbying, the Council of Jewish Federations (which Dekro calls "the largest and most powerful Jewish organization in the country") issued a nuclear freeze resolution in November. And in February, the Synagogue Council of America released a similar statement. "The umbrella organizations are now on record," says Dekro.

Although Jews have supported disarmament "for the same reasons as everyone else," Dekro explains that many may have a more personal rationale. "There are large Jewish communities in both the U.S. and the U.S.S.R., and in both countries that population is highly concentrated in urban areas, which are the most likely sites for bombings," he says.

"There is also a clear concern because the Midwest is a likely place where nuclear war could start," Dekro adds.

Freeze supporters also draw a parallel between nuclear war and the Holocaust. "The Japanese are the only people to know what it is like to have a nuclear bomb dropped on them," says Dekro. "But the Jewish community worldwide understands what it is like to be the victims of evil will and modern technology when the two are combined."

Despite the recent religious influx into the disarmament movement, it is clear not all religious people favor arms reduction. Right-wing fundamentalist Christians, for example, continue to support increases in nuclear stockpiles.

"They see the world as divided between them and everyone else," says Scott. "They feel nuclear arms are justified as a way of protecting them from everyone else."

Just how far the growing religious left can pull the middle and rightist ground in its direction - or vice versa remains to be seen. The nuclear bomb which destroyed Nagasaki and its cathedral was only one catalyst for this moral tug-of-war - a struggle which will probably continue long after the image of that burnt-out church is forgotten.
The MX Nobody Knows

By John S. Marshall

I

t stands 71 feet tall. It weighs about 150,000 lbs. It is armed with ten nuclear warheads - each 17 times as powerful as the bomb dropped on Hiroshima. The MX Missile is supposed to strike fear into the hearts of Soviet leaders, preventing them from ever firing their own deadly weapons at the United States. Some say the MX is the only credible defense against a Soviet Union which can wipe out the United States' present arsenal of land-based missiles in their silos. Others say it is no deterrent at all. But all are beginning to agree on one troublesome matter:

There may be no place to store the damn thing.

In December of 1982, unconvincing by President Reagan's Dense Pack proposal, Congress decided to withhold further production funds for the MX until an acceptable basing mode could be found. A Reagan-appointed commission headed by Lieutenant General Brent Scowcroft has until April 18 to find what has eluded top nuclear strategists for the past five years - a basing structure that is both invulnerable and mobile. The commission will have to convince politicians who are growing weary of claims that the next plan will be better than the last.

And a home for the MX is not the only controversy. Not everyone accepts the basic premises that led to the missile's development, and the disagreement among the experts is rivaled only by the debate in Congress. Tens of billions of dollars have been spent, and it is still not clear 1) that the MX can do what its proponents say it can do, and 2) that it is truly superior to other weapons already available.

In addition, President Reagan's recent proposal for anti-ballistic missile systems research may have clouded the theoretical arguments behind the very idea of the MX. But he and the military establishment are committed to the missile and its prominent rank in the best of all possible arsenals.

The proposed Missile Experimental. To date, no basing plan has secured Congressional approval.

The Bombs Bursting in Air

Military strategists who accept the first strike scenario argue that both U.S. and Soviet missiles are accurate enough to travel 6,000 miles and explode with a force of 350,000 kilograms within about 600 feet of a target no more than 50 yards in diameter. Although Congress and Presidents Carter and Reagan have disagreed with Air Force recommendations for basing modes, none has disputed the claims of accuracy. The exact figures are classified, but examination of available evidence suggests that all is not certain.

The Air Force's official measure of accuracy is defined as "circle error, probable" (CEP). It is the radius of that circle that is called the CEP. What is important is how close the warheads come to hitting the target, but how many of them fall in the same place. The distance between the center of the impact pattern and the target is called the "bias."

Once its rocket stages have burned out, an intercontinental ballistic missile is like an artillery shell. Unlike the self-guiding cruise missile, the ICBM's, re-entry vehicle ("warhead") cannot change its direction or adjust its course as it falls toward the earth. The pull of gravity and the drag of the atmosphere, as well as other environmental factors, all affect the bias, which means there is no guarantee that a warhead will land exactly where it is supposed to.

The Air Force has been firing missiles and correcting for bias on the Western Test Range between the Vandenburg Air Force Base in California and the Kwajalain Lagoon in the Southern Pacific. But a missile aimed at the Soviet Union would pass over the North pole, and the effects on a basing plan for the MX would not be as pronounced as the first strike scenarios do not take these unknown factors into account.

Can untested missiles be expected to land precisely on target the first time they are fired into enemy country? In The New York Review of Books, Andrew and Alexander Cockburn quote former Secretary of Defense James Schlesinger's testimony to the Armed Services Subcommittee of the Senate Foreign Relations Committee on March 4, 1974: "It is impossible for either side to acquire the degree of accuracy that would give them a high confidence first strike, because we will not know whether the actual accuracy would be like in a real world context."

MX advocates say it will be the most accurate weapon ever produced. They may be right. But even the MX Public Affairs Director, Air Force Colonel Michael Terrill, cannot make such claims with certainty. "Right now," he says, "our accuracy is based on projections. We haven't fired the missiles yet."

Even if there were conclusive proof of the missile's accuracy, the MX is beset with other problems. First, and foremost: where in the world can it be stored?

Where, Oh Where...

Ever since deciding to deploy the MX Missile, the Air Force has proposed and the Federal government has considered at least 30 basing plans. In 1979, President Carter supported the "racetrack" idea, which entailed building 200 MX's and rotating them among 4,600 shelters in Utah and Nevada, so that the Soviets would be prevented from firing by not knowing where the missiles lay. The cement industry loved it, the citizens of those states hated it, and candidate Ronald Reagan thought it was ridiculous.

For a while Secretary of Defense Caspar Weinberger favored the "Big Bed" scheme, which called for a wide-bodied jet loaded with MX to fly around continuously for four or five days. But a great deal of warning was needed for takeoff and it was eventually deemed too vulnerable.

In 1981 the Reagan administration proposed building only 100 MX missiles (half the number favored by President Carter) and placing them in existing Minuteman silos. This contradicted one of the fundamental reasons for building the MX in the first place - that the Minuteman silos were too vulnerable to a first strike. Congress threatened to withhold funds without a stronger basing mode, and Reagan's advisors came up with the Dense Pack plan.

This called for placing 100 MX missiles in silos so close together that incoming Soviet warheads would destroy each other before hitting their targets (the "fratricide" effect). Opponents argued that the U.S.S.R. could avert fratricide by dropping warheads one by one on silos (the "Slow Walk") or by exploding warheads in the air over the silos for hours, preventing any MX's from retaliating (the "Pinsown"). In the end, Reagan could not convince Congress that Dense Pack was invulnerable to a Soviet first strike, and so he has been forced to find yet another plan.

If the findings of his commission at all resemble a study conducted for Congress by the Congressional Research Service in February, the government may decide to abandon the land-based leg as the most important part of the triad. The analysis, written by John M. Collins, a senior specialist on national security in the Research Service, calls for basing the missiles at sea in structures other than submarines. The "Hydra" plan entails placing missiles in buoyant canisters that would be dropped from ships and allowed to float free, launched by remote control. One

(Continued on page 11)
On paper, nuclear strategy appears to be an exact science. Working from intelligence data, American and Soviet military planners assess each other's strengths and project their own power accordingly. Using calculations and specially designed rules, they estimate the force and likelihood of a nuclear attack. Armed with this information, commanders construct possible scenarios of a nuclear war. As the day approaches, it is to foresee advances in technology that could lead to shifts in the nuclear balance of power.

World leaders, when making decisions about arms, must believe that they are in a job to follow the theorists. If a new system must be built or an old one must be scrapped, the strategists know best. Governments may disagree with particular plans, but the basic assumptions behind them go undisputed. Critics charge that such thinking inevitably leads to the dangerous notion that a nuclear conflict might be winnable. Others argue that it is impossible to predict the probable course of action of an event as insane as nuclear war. And whether nuclear strategy is an exact science, a guessing game, or something in-between, it is the starting point for the superpowers' defense policies. And changes in strategy usually lead to changes in those policies.

Not Pulling the Trigger

Since the early years of the Soviet-American "Cold War," both countries have accepted the theory of "mutually assured destruction" (MAD). Since each country is well-equipped to destroy the other, so the theory goes, there is no relative paucity of forces ensures that if either dares to launch a nuclear strike, it will face the staggering devastation of a nuclear counter-attack. The situation can be compared to two men facing each other with loaded pistols, each knowing he will be killed should he be foolish enough to pull the trigger. For three decades, this has successively worked to prevent nuclear conflict. But maintaining the restraint that such a standoff demands has been an odd responsibility for military strategists whose traditional role has been to exploit enemy weaknesses and achieve undisputed victory.

"Thus far," notes strategy expert Bernard Brodie, "the chief purpose of a military establishment has been to win wars. From now on, its chief purpose must be to prevent them.

However, strategists have been reluctant to abandon old ways of thinking, even as new weapons are developed. Some have suggested the possibility of "limited nuclear engagements," and "strategic surgical" which could incapacitate an enemy without causing the nuclear holocaust the United States and Soviet Union say they fear.

American military analysts, for example, believe the Soviet Union could be capable of launching a damn-effect strike on American land-based Minuteman missiles in their scenarios, such an attack could destroy a large portion of that force while killing only 5 to 10 million civilians. An American president, they argue, would be reluctant to retaliate against such a "limited" attack because he would risk further strikes against American cities.

Even if the United States responded with its submarine-launched missiles, they continue, the Soviet civil defense plan could limit civilian losses to around 10 million. Some strategists suggest that Soviet leaders would be willing to risk such a loss - less than half the casualties they suffered during World War II - if they thought it could lead to a future of world communist domination.

To solve the problem of vulnerability, strategists have proposed weapons such as the MX missile to eliminate the possibility of such a strike. But Congress still has not approved the MX. Politicians are not certain that the missile is a credible defense weapon - and that has always been the prime consideration.

Birth of an Arms Race

Since the first atomic bombs fell on Hiroshima and Nagasaki, the United States has claimed that its nuclear arsenal is strictly a defensive force. Even when the United States enjoyed a nuclear monopoly during the four years following World War II, military planners said the purpose of the force was to check Soviet influence in Eastern Europe and Asia.

According to Richard Pipes, a former Harvard Professor who is now with the National Security Council, United States military planners hoped the atomic bomb could be effectively used to maintain American military power as the number of armed forces personnel declined from 12.3 million at the end of World War II to 2 million, two years later.

"Growing strains in the wartime alliance with the Soviet Union, and mounting evidence that Stalin was determined to exploit the chaotic conditions brought about by the collapse of Axis powers, called for an effective military force to deter the Soviets," he says. "The United States could not fulfill its role as leader of the Western coalition without an ability to project its military power globally."

The strength of the United States' nuclear force led the Soviets to develop an atomic bomb in 1949, and to deploy a hydrogen bomb just four years later, to the chagrin of American strategists.

The successful launching of Sputnik in 1957 was even more unsettling. This technological breakthrough took military experts by surprise and signaled the Soviet ability to launch an intercontinental ballistic missile (ICBM). Thereafter, the United States believed it was vulnerable to nuclear attack.

As panic-stricken Americans installed fall-out shelters and prepared for the horror of a nuclear war, the Eisenhower administration formulated its policy of "massive retaliation." To deter a Soviet attack, the U.S. decided it needed an arsenal of nuclear weapons capable of hitting one quarter of the Soviet people and destroying half its industrial base.

But deterrence was only the beginning. During the Sixties, the United States built up an arsenal capable of destroying the Soviet Union three times over. The so-called "trident" consisted of land-based Minuteman missiles, Poseidon submarines, and B-52 bombers. With these three systems, the United States felt it had amassed a stockpile which would ensure security for many years to come.

This sense of security was reinforced by the perceived inferiority of Soviet nuclear forces. Not only did the Soviet Union trail the United States in numbers of arms, its weapons were also considered less accurate and technologically complex.

By the end of the Sixties, the American build-up was complete. 1969 saw the beginning of the Strategic Arms Limitation Talks (SALT). In 1972, the superpowers ratified SALT I, in which they agreed to place a ceiling on the number of missiles and other delivery systems they could deploy. However, they placed no limit on the number of warheads - i.e. nuclear bombs themselves - each side could attain. This proved to be a mistake. New technology soon signaled a new round in the arms race. And the theories would never be the same.

Perceptions of Imbalance

In the past decade, the technological breakthrough that allows missiles to carry multiple warheads has virtually nullified the significance of SALT I's delivery system ceiling. These Multiple Independently Targeted Re-entry Vehicles (MIRVs), presented a new complication to nuclear strategists - missiles containing as many as 14 warheads presented a first-strike target more attractive than before. Missiles aboard American submarines, for example, could deliver 650 warheads before the development of MIRV technology; today, they are capable of carrying more than 4,300. Strategists adjusted their scenarios accordingly, considering a pre-emptive first strike more probable.

But some critics have begun to question the feasibility of such a first strike. In his recent book National Defense, James Fallows argues that strategists have exaggerated the likely success of such a raid. Planning for nuclear conflict is extremely difficult, he says, because strategists must rely on predictions, not hard facts.

"On the basis of theories," he writes, "billions of dollars have been spent, and tens of thousands of men have been trained and deployed...[But] there has never been a nuclear war and nobody knows what a nuclear war would mean...For the absence of such evidence we should give thanks."

Fallows argues that there is a wide range of variables that strategists have not considered. For example, a pre-emptive strike against American missiles would require incredible precision. For each Minuteman silo, Soviet missiles would have to travel more than 1,000 miles and land within a few hundred yards of their targets at almost precisely the same instant. Without extensive testing, something both sides lack - the success of such an attack cannot be predicted with certainty.

"The overwhelming impression that comes from talks with those who design, maintain, and test nuclear weapons...is the uncertainty of it all," Fallows writes. "The most important questions about how weapons work cannot be answered before they are fired. But unless he has conclusive answers, no Soviet or American leader who is thinking 'rationally' is likely to risk firing the..."
Strategies

(Continued from page 10)

arms race is likely to take a giant step forward as both countries rush to attain anti-ballistic missile systems. New scenarios will have to be devised from which to provide the military's growth. Enough analysts may center on the relative merits of one theory versus another, but few are likely to question the scenarios themselves.

Because even though "defensive systems have limitations and can cause problems and ambiguities," as the President said in his speech, nuclear strategy is a science. Perhaps an exact science.

On paper, anyway.

The MX Missile Nobody Knows

(Continued from page 9)

But some are not ruling out the SLBMs. According to Turner, the military could find a way to make them stronger if it so desired: "We may well decide to improve the accuracy of our submarine-launched missiles..."

Perhaps it cannot be done. But right now, the Union of Concerned Scientists, Common Cause, Friends of the Earth, and the Council for a Livable World are lobbying Congress to scrap the MX. The experts agree that an SLBM force would be preferable to an MX force.

Where No Plan Has Gone Before

On March 23 President Reagan asked the scientific community to research what he himself considers preferable to an MX force - anti-ballistic missile systems which could intercept ICBMs and SLBMs, and the MX itself, which the military wish to keep.

Perhaps the missile which was designed to be the most powerful weapon in history will one day find an appropriate resting spot. Defense Secretary Caspar Weinberger, who is responsible for the MX, says that the missile is "definitively" that spot could be in an invulnerable, outer space system as laser beams, particle beams, and microwaves, based in outer space. But although the President's proposal calls for an end to U.S. reliance on the doctrine of mutual assured destruction, he is still committed to a missile which was developed according to the requirements of that very doctrine.

Reagan acknowledges that it would take decades to develop fiscal plans and money for MX systems, but perhaps he sees the MX as a weapon for the interim. However, a recent panel of experts assembled by Defense Secretary Caspar Weinberger and chaired by Charles Townes, a Nobel laureate physicist at the University of California, concluded that there can be "no interim"; the U.S.S.R. and the U.S. will continually try to outdo each other. The MX is already the subject of political conflicts - whether it can withstand theoretical controversy remains to be seen.

At the moment, according to the military, the United States is without an effective deterrent. And the prospects of a land-based system that can convince both the experts and the politicians are not encouraging. The Missile Defense Experiment is still under consideration, but time is running almost as low as patience.

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March Events

[Event details]

April Events

[Event details]

April 4
3:30 pm
The MX Missile and Its Technical and Operational Characteristics
Richard Grenier, Fellow at the T. J. Watson Research Center. Andrea D. White, Professor at Large at Cornell University.
200 College Hall, 36th and Walnut Streets
8:00 p.m.
Debate on President Reagan's Foreign Policy
Congressman Bob Edgar and former Congressman John LeBoutillier. A presentation of the Penn Political Union.
200 College Hall, 34th and Walnut Streets
4:00 p.m.
American - Soviet Relations
Discussion moderated by Professor Alfred J. Ruben.
200 College Hall, 36th and Walnut Streets
7:00 p.m.
Psychology of the Nuclear Threat: Alternatives to Despair
Professor Robert Garfield, Hahnemann University. Dr. Diane K. Pelman, Hospital of the University of Pennsylvania. Professor John Saberi, University of California, President James Bennett, Regional Science, Professor William Evan. Sociology and Management. Professor Marc Teichenberg, History.
200 College Hall, 34th and Walnut Streets
also 7:30 p.m.
Are We Running Out?
Nona Club Panel.
Room 256, McNell Building
5:00 p.m.
Nuclear War in Evolutionary Perspective
Jonas Salk, M.D., Director, The Salk Institute for Biological Studies.
8:30 p.m.
Concert for Humanity
Sally Goldstein. Director of the Penn Political Union.
200 College Hall, 36th and Walnut Streets
7:30 p.m.
Symposium: Biological and Chemical Warfare - Present and Future Dangers
200 College Hall, 36th and Walnut Streets
8:00 p.m.
Debate on Arms Control and the Nuclear Threat
Paul Wamke, former Director, U. S. Arms Control and Disarmament Agency. W. Scott Thompson, Associate Director for Programs. U. S. Information Agency.
Harrison Auditorium, The University Museum. Side Entrance on 3rd Street. South of Spruce Street.
also 7:30 p.m. FILMS
FILMS 7:30 p.m.
The War Game (1966)
A presentation of the Graduate School of Communications Studio Theater, Annsenberg Center, 3680 Walnut Street.
7:30 p.m.
Peace Fair
200 College Hall, 36th and Walnut Streets
also 7:30 p.m. FILMS
FILMS 7:30 p.m.
The War Game (1966)
A presentation of the Graduate Council - The Annsenberg School of Communications Studio Theater, Annsenberg Center, 3680 Walnut Street.
10:00 p.m.
Bearing Witness: Health Advocacy in the Nuclear Age
Professor James Sabin, University of Pennsylvania. Professor John Sabin, University of Pennsylvania. Professor Neville Sabin, University of Pennsylvania.
200 College Hall, 36th and Walnut Streets
7:00 p.m.
Debate on the Nuclear Freeze
Senator John Warner and former Senator George McGovern.
Irvine Auditorium, 36th and Spruce Streets
8:00 p.m.
Superpower Conflict and the Vast Majority: Third World Perspectives
A presentation of the Social Sciences and City and Regional Planning Departments.
200 College Hall, 36th and Walnut Streets
7:00 p.m.
Address of the Navy, John Lehman.
A presentation of the Penn Political Union.
200 College Hall, 36th and Walnut Streets
All Forum events (not including the Concert for Humanity) are free and open to the public.
For updated information, please consult The Philadelphia Inquirer, The Daily Pennsylvanian, or call (215)-898-3634.