

F. A. S. NEWSLETTER

FEDERATION OF AMERICAN SCIENTISTS—Founded 1946—
A national organization of natural and social scientists and
engineers concerned with problems of science and society.

Vol. 24, No. 4
April, 1971

Herbert F. York, Chairman
Marvin L. Goldberger, Vice Chairman
Jeremy J. Stone, Director

FAS TESTIFIES ON BOMBER DEFENSES

(partial text on page 7)

On February 11, Senator John C. Stennis of Mississippi, Chairman of the Armed Services Committee, announced the creation of a Special Subcommittee on Bomber Defenses to make a "full scale inquiry into and review of all matters" relating to defense of the continental United States against possible enemy bomber attack. On February 22, the Federation wrote Senator Stennis noting that many of its members questioned the utility of large expenditures on anti-Soviet bomber defenses at a time when the President was saying that there was "no way" to defend against Soviet missiles (March 14, 1969). FAS asked for an opportunity to testify to that effect.

Senator Stennis, who is renowned in the Senate for both his fair-mindedness and for his gracious manners, agreed without hesitation and he made special efforts to make FAS testimony possible. Because the advance notice was nevertheless less than three full days, the Director, Jeremy J. Stone, presented FAS views in a statement he prepared. Its policy conclusions were approved by the Executive Committee—not all of its members had the opportunity to hear each word since the statement itself could not be circulated to them in time.

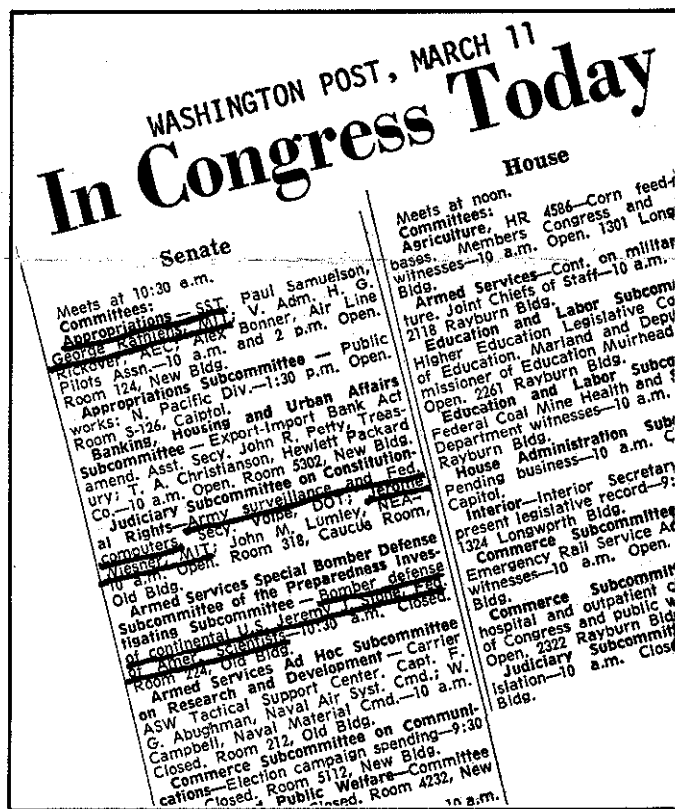
Appearances of non-official witnesses before the Armed Services Committees of either House or Senate are extremely rare. In an unprecedented action, the Senate Armed Services Committee did hear eight outside witnesses in two days of hearings on the ABM in 1969—prompted in part by criticism of Senator J.W. Fulbright. Herbert F. York, then FAS Vice-Chairman-elect was among these witnesses but did not, on that occasion, represent necessarily agreed FAS views.

Senator Stennis, and his staff, showed the Federation every courtesy and ordered the hearings, at which Dr. Stone was the only witness, printed in the public record. Whether or not there would otherwise ever have been any public record of the Special Subcommittee's deliberations is unclear. All other witnesses were heard in the usual official secrecy of executive session.

Of the five members of the Subcommittee, Senator Stennis and Senator Peter H. Dominick of Colorado were on hand to hear the Federation views. The FAS statement opened by saying:

"One of our primary purposes today is to urge the Senate Armed Services Committee to require the Department of Defense to state the purpose of U.S. defenses against enemy bombers, to explain how present and projected U.S. bomber defense programs fulfill that purpose, and to provide the Committee with alternative bomber defense purposes and related programs".

See Armed Services Committee, page 2



On March 11, one-third of the Senate Committees in session were hearing members of the Federation leadership. Sponsor Jerome B. Wiesner testified on privacy. Executive Committee Member George W. Rathjens spoke against the SST. Director Jeremy J. Stone testified for the Federation in an unusual session of a special subcommittee of Armed Services discussed on this page.

FAS OPPOSES PROTOCOL "UNDERSTANDINGS" ON CBW

(Text of FAS statement on page 4)

On March 5, Secretary of State William P. Rogers told the Senate Foreign Relations Committee that the Administration urged ratification of the Geneva Protocol against Chemical and Biological warfare with the understanding that it permitted the use of tear gas, and of herbicides, in Vietnam.

FAS issued a press release that same day calling these understandings "Highly questionable legally, absurd politically, repugnant morally, and foolish strategically."

See Protocol, page 6

ARMED SERVICES COMMITTEE, from page 1

FAS then suggested five such purposes. A "Facade Defense" was what we now had in the SAGE-BUIC system. It should be dismantled insofar as its purpose was to defend against Soviet bombers; for this purpose it was simply ineffective. A true defense against Soviet bombers was what the Air Force was evidently proposing in its argument for AWACS (a system of putting command and control in the air with ground-looking radars and buying a new high speed interceptor. FAS argued that a bomber defense without a missile defense was a chain with a missing link. It noted that Secretary Laird had said, only two days before, that an "effective" defense of our population against Soviet attack was "not now feasible".

FAS approved some kind of "Coast Guard of the Air" posture which, it believed, would save several hundred million dollars over present expenditures. It took no position on what was necessary, if anything, for protection against a future threat of bombers from "Nth" countries. And it denied that a bomber defense could play a sensible role in "detering enemy attack."

FAS questioned the value of AWACS, as designed for strategic defense, in tactical situations. It also warned that a tactical AWACS might encourage some to believe that the U.S. was becoming the world's policeman for protection against bomber threats.

A SUCCESSOR TO SAFEGUARD?

(We) are examining other concepts as well: for providing light area defense against small or accidental attacks through other means than the current full Safeguard to enhance our ability to counter the Chinese threat even if a desirable SALT agreement precludes full deployment of the current Safeguard program;

—p. 74, Posture Statement of Secretary Laird, Fiscal 1972.

TACTIC GROWING BUT NEEDS HELP

TACTIC, the grass-roots lobbying arm of FAS, now has 550 scientists in 240 Congressional districts. Among other mailings, participating scientists have received a packet of material on the Supersonic Transport and one on the Geneva protocol. TACTIC Co-ordinator, Dr. Barry M. Casper, hopes to have 400 districts involved by the end of the academic year.

The TACTIC operation is an expensive one for the Federation, which is still only approaching a financial steady-state for its national office operations. But it has considerable promise. FAS members who wish to participate in TACTIC should contact Dr. Casper at Department of Physics, Carleton College, Northfield, Minn. Contributions earmarked for defraying the special expenses of this operation should be sent to Dr. Casper or to the national office.

THE STATE OF THE WORLD MESSAGE & THE ARMS RACE: BAD NEWS

President Nixon argues that "until the late 1960's" we had strategic forces that "provided a clear margin of superiority." Now, he believes, the "balance of strategic forces" has changed. Arguing in terms of numbers of launchers only, he argues that our forces were "held at existing levels" while the Soviets moved forward to numbers that exceed "by any standard" the "level needed for deterrence."

But it is absurd to talk of our forces being held at "existing levels." Secretary McNamara boasted that Minuteman II was 8 times as effective as the Minuteman I it replaced, and Minuteman III is a three for one warhead improvement of Minuteman II in terms of targets it can strike. Comparable improvements occurred at sea in Polaris and are continuing. Who is kidding whom?

Second, it is absurd for the Nation which has been maintaining a huge strategic lead for 20 years to talk of who exceeds "by any standard" the "level needed for deterrence." We are still far ahead in deliverable warheads—a more relevant measure since warheads kill people and launchers do not. Any past or foreseeable Democratic Administration, and some Republican ones, would have seen little more in Soviet build-ups than an effort to catch up to us in strategic force capabilities. To achieve parity with us, a nation would have to buy forces in enormous excess of those needed for deterrence.

Double-Standard Applied

The double standard is particularly evident in discussions of multiple warheads. It is actually claimed that our deployment of MIRV demonstrates our "defensive intent" because our MIRV does not have the numbers, accuracy, or warhead size to attack the Soviet land-based force. But this is (perhaps only) true for now, just as it is also (perhaps only) true now

for Soviet multiple warheads. The rhetoric is Kafkaish. The leading competitor in the arms race initiates a round of MIRV deployment, increasing its deliverable warheads from 2,000 to 10,000, and raises the specter of future attacks on land-based missiles, and then calls these actions an indication of its "defensive intent."

The double standard that compares what we are now doing, with what they might in future do, is clear in this quotation:

Deployed in sufficient numbers and armed with the multiple independently targetable warheads (MIRV's) of sufficient accuracy, this (SS-9) missile could threaten our land-based ICBM forces. Our MIRV systems, by contrast, do not have combination of numbers, accuracy and warhead yield to pose a threat to the Soviet land-based ICBM force.

Since the Soviet strategists are worrying, as we do, about the future, these comparisons are worthless and misleading.

What Constitutes Arms Race Aggression?

The President poses a fateful question: "Does the Soviet Union simply seek a retaliatory capability?" thus permitting the pursuit of meaningful limitations on strategic arms? Overkill being what it is, however, the alternative he poses is less than apocalyptic: "or does the Soviet Union seek forces which could destroy vital elements of our retaliatory capability thus requiring us to respond, . . ." If the President had said: "or are they building for a first-strike against us," he would have seemed ridiculous. The Administration went to the other extreme, and chose a criterion for Soviet aggressiveness that

Continued on Page 3

surely can never be disproved. The Russians will always be able to "destroy vital elements of our retaliatory capability," since that phrase could cover even a single missile attack at an underground command post. Indeed, the President later singles out as one of five "serious" threats just such attacks on national command authorities that might "gravely endanger our capability to respond appropriately" to the nature of the attack.

The Russians must find this sort of thing unbearably sly, and it is no isolated example. For instance, although the President noted that today "small numerical advantages" would have "little military relevance," he continued to say that "even with numbers held constant," the relative strategic position can change "through modernization and technological advances and through differing concepts for employment." In other words the Soviets might discover some new "concept for employment" that would give them strategic advantage. In short, Soviet strategic capabilities are limited only by our ability to invent ingenious Soviet strike plans.

SS-9 Slowdown Deemed Irrelevant

In December, an enterprising newsman, Orr Kelly of the Evening Star, broke the story that the SS-9s had stopped growing in number; he thus forced follow-up Pentagon background disclosures which would not otherwise have occurred. The State of the World Address revived the threat. After noting that a Soviet capability to threaten our land-based forces would not "of course" be an acceptable situation, the President said, "Nor is it clear that even at present levels of Soviet forces, future qualitative improvements would not endanger our ICBM forces."

Earlier articles of Joseph Alsop's had put the matter baldly. By hypothesizing six warheads per SS-9, rather than the three per SS-9 used last year, and assuming higher accuracy to compensate for smaller warheads, 280 existing SS-9s would do quite as well for a threat as the earlier-hypothesized 420 in 1975. (When the ABM opponents had raised this same possibility as evidence that Safeguard would eventually be overwhelmed—by 420 SS-9s with six or even more warheads—they had been told that the SS-9 could not be given the required accuracy.) The Pentagon is without shame.

The Soviets have done everything asked of them. But the President still says that the past year has not provided "definitive answers" about Soviet intentions. Over the last few years, the alarms in this country have used: growth in Soviet ABM, Soviet MIRV tests in the Pacific, and growth in Soviet SS-9s. No Pentagon announcement of any of these things has occurred for months! Now that the Soviets may be performing the "concrete acts" we usually demand of them, we are asking for words. The significance of the Soviet halt in SS-9s is said—in a later section—to be "not clear." It could be "self-restraint" or a feeling that they have now ICBMs "sufficient for their needs" or just a delay for upgrading purposes.* In short, the Russians had just better stop being Russians.

Administration Moving Toward Thin ABM

In view of growing American concern over the slightest expansion in Soviet ABM radar capability, the President's relaxed attitude toward our own ABM growth spells a decision to build an ABM. The report talks of the need to put "some

*In fact, to disguise the fact that the number of SS-9s built and under construction has halted (indeed declined!), the statement concedes instead the politically less startling fact that the Soviets have "slowed the deployment of land-based strategic launchers" in general.

limit" on ABM while our strategists, in and out of the Pentagon, are screaming that only zero limits or, at most, an immediate freeze on the Soviet ABM system is necessary to permit a future agreement.

Very significantly, this report gives second priority to limiting defenses, and first priority to limiting offense. The President notes that it could "also be dangerous" if under an agreement, defenses were "allowed to become so strong" that one side might no longer be deterred. But his main concern is obviously that the strategic balance would be "endangered" if we limited defensive weapons only.

The distortion of rhetoric required to maintain this position is revealing. When it talks of defensive weapons, the document talks of the underlying strategic realities: i.e., Don't let the defense get so strong that one side or the other fails to be deterred. When it speaks of limiting offensive weapons, it simply talks of an "endangered" strategic balance; this is the second-order language in which one can refer to the proclivities of the other side to buy with exaggerated caution.

This rhetorical imbalance could not be reversed. We could not say that capabilities of one side to attack the land-based missiles of the other side would reach a point where the first side failed to be deterred—this is because each side has missile firing submarines. But we can express the ultimate fear of destabilization about ABM (because it can, in principle, neutralize all missiles). Hence ABM is the more serious destabilizer of the arms race, encouraging new offensive construction wherever it rears its head. There is no recognition of this fact in this document.

Soviet Proposal Rejected

Instead, the President turns down the Soviet proposal to limit missile defenses to national command posts as a first step. He says that, for an agreement to be "satisfactory," it must include limitations on both offensive and defensive weapons. He hinted later that an ABM agreement only would be a "token agreement" that might be "counterproductive." This is simply ridiculous.

While the President argues only that we must continue ABM "for now," he also continues to emphasize the Chinese threat to population centers "before this decade is over" and the "disturbing possibility of accidents." Both of these would be used in time to justify a thin cover of the entire country, not just protection of Safeguard.

—Jeremy J. Stone

VIETNAMIZATION PLAN CLARIFIED

At home we did not have the option of continuing as we had—and the enemy knew it. So we chose a policy that we had believed would gain the sustained support of the American people and thus give us a chance to fulfill our objectives in Vietnam . . .

—State of the World Address, Feb. 1971

"By early 1972," Mr. Nixon confided, "I believe we will have achieved the objectives for which we went into South Vietnam in the first place." At this another dinner guest asked: "You mean, Mr. President, that we are winning?" With a smile, the President replied: "We'll talk about that later."

—Newsweek, March 1, 1971

GENEVA PROTOCOL: Better to defer its ratification than to accept Administration "Understandings."

We applaud the wise initiative of the President in totally renouncing biological weapons and in sending the Geneva Protocol to the Senate for advice and consent. The Administration advocates the ratification of this treaty which we also support. But in sending the Protocol to the Senate, the Administration has expressed its understanding that the treaty does not prohibit the use in war of irritant chemicals, such as tear gas, and anti-plant chemicals, known also as herbicides. There is no reason to believe that such an understanding would have been adopted by the Administration were the United States not using these chemicals in Vietnam. As an understanding, this point of view is highly questionable legally, absurd politically, repugnant morally, and foolish strategically. We urge the Senate to ratify the Protocol only if the Administration will cease to use irritant and anti-plant chemicals in war, and will abandon these two reservations.

How questionable the Administration interpretation is legally is seen in history. Gas warfare began in World War I with French, German, and Russian use of irritant gases: tear gas, nausea gas, and the blistering mustard gas. It was to prevent a repetition of just this sort of thing that led to the relevant provisions of the 1919 Treaty of Versailles; of the 1922 Washington Treaty on Submarines and Noxious Gases; and of the Geneva Protocol itself. There is no positive evidence whatsoever that a majority or significant minority of the signatories of any of these treaties meant to permit, in war, tear gases, or nausea gases, or *any* other irritant gases. No one doubts that these provisions prohibit, for example, the non-lethal mustard gas.

While tear gases were not mentioned in these treaties except as "other gases" no Nation on the League of Nations Preparatory Commission except the United States expressed any doubts that they were covered. Ten of these sixteen states explicitly agreed that they were. And all parties to World War II acted as if they were, indeed, covered.

We can also argue that, when the Protocol was drafted, the herbicides in use, mainly arsenic compounds, were considered to be dangerous to animal life as well and hence were meant to be covered by the treaty under the phrase "analogous liquids." In any case, although little attention was directed to them at the time, there can be little doubt that they violate the spirit of the Geneva Protocol's general effort to ban chemical and biological warfare. And there is no doubt that the vast majority of the international community prefer this interpretation, as reflected in a December 16, 1969 U.N. resolution adopted 80 to 3 with 36 abstentions. Only Australia and Portugal agreed with us. No other state has ever ratified the Geneva Protocol with a reservation on chemical weapons of any kind.

In the face of these world-wide attitudes, it would be politically absurd, to take an understanding that could not, and would not, be supported by other nations or international bodies. Any nation, or the U.N. General Assembly, could take this matter to the World Court where we would likely find our understanding disavowed. Would we like to have our uses of chemicals in Vietnam debated publicly and skeptically in an International Court?

The Executive Branch understandings are morally repugnant because they are simply efforts to justify use of offensive chemical warfare in Vietnam. The *six million* pounds we used in 1969, of CS—a tear and nausea producing gas—were not necessary to separate civilians and enemy forces; these are not often found together in combat situations. Since its introduction CS has been used instead in a wide variety of offensive military operations: assault against point and area targets, flushing of caves and structures, use in conjunction with anti-personnel artillery and air strikes, suppression of small arms fire around helicopter landing zones, and so on. Most of these uses are simply adjuncts to offensive weapons in which, for example, the CS flushes out enemy forces which are then shot or killed with fragmentation grenades, air strikes, etc. *This is neither more nor less than the lethal use of non-lethal gas.*

Like tear gas, herbicides could be used for innocuous purposes: defoliation of friendly base perimeters, or ambush sites. But, in fact, most of the herbicides have been used in what has been called "ecocide." Half of Vietnam's Mangrove forests have been destroyed, a sizable fraction of its merchantable hardwood forests have been severely damaged, and crop destruction has covered land capable of feeding approximately 600,000 people per year. This has taken place in food scarce areas where it cannot be assured that crops destroyed are "intended solely for consumption by the [enemy] armed forces" as required by U.S. Army Doctrine. In such areas, it is women, especially child-bearing women, and children who suffer most from crop shortages—not the able-bodied soldiers that can supply themselves, commandeer food, or leave the area. Indiscriminate destruction of crops has figured in Nuremberg war-crimes trials. Why should it be protected by a U.S. understanding of the Geneva Protocol?

Finally, it would be foolish and short-sighted strategically for the strongest nation in the world to encourage a kind of warfare that lends itself to poorer nations. If CS and herbicides had never been invented, the course of the war in Vietnam would not have been seriously affected. Neither weapon is of more than marginal value in the general context of the war and of the enemy's ability to cope with our chemical tactics. But if the use of chemicals in Vietnam should lead to a breakdown in international attitudes toward chemical warfare, who knows what future lethal chemicals might be used against America or its forces. General Pershing noted in 1922 that the Washington Treaty should prohibit *all* gases because of the difficulty of enforcing partial bans; he is still right today.

The Federation condemns the use of chemical warfare in Vietnam. But over and above that it would be senseless for the American Government to adopt "understandings" that protect these uses simply because the Protocol is being sent to the Senate during the Vietnamese War. We have waited more than 40 years to ratify this treaty. It should be ratified without exceptions. If necessary, it would be better to wait a few more years for the war to end than to risk unravelling the carefully built attitudes of mankind that are embodied in the Protocol prohibition of chemical and biological warfare.

*The Federation statement was approved by its Executive Committee and by its Committee on Chemical and Biological Weapons chaired by Dr. John T. Edsall, Professor of Biochemistry at Harvard, now Visiting Scholar of the Fogarty International Center, National Institutes of Health. Dr. Edsall is a past President of the American Society of Biological Chemists.

The CBW Committee included Dr. Arthur Galston, Professor of Biology at Yale University, Dr. Han Swyter, and Mr. Robert C. Wheeler.

Any statements in the newsletter that are official policy are always indicated as such. Statements signed by the contributor do not necessarily reflect official FAS views, whether signed by the Director, or other officers, or members.

FAS ANALYSES THE PROBLEM OF DEFENSE AGAINST ENEMY BOMBERS

(This page contains excerpts totaling about one-third of FAS prepared remarks) before the Stennis Subcommittee on Bomber Defenses of the Senate Armed Services Committee, March 11, 1971).

"One of our primary purposes today is to urge the Senate Armed Services Committee to require the Department of Defense to state the purpose of U.S. defenses against enemy bombers, to explain how present and projected U.S. bomber defense programs fulfill that purpose, and to provide the Committee with alternative bomber defense purposes and related programs.

Rationales for Continental Bomber Defenses

Purpose I: Facade Defense

Here the purpose is to prevent the Soviet bombers from getting a "free ride," to "complicate" the Soviet bomber penetration problem, and to avoid our own feeling of being "naked" against the Soviet bomber threat. This is, in our view, the posture in which the country has been for most of the last decade. The SAGE-BUIC bomber defense has been in existence and operation, but it has been no secret that a small number of Soviet missiles could disrupt its effectiveness.

PURPOSE II: Defend America Against Full-Scale Attacks by Soviet Bombers

In this case, it would be necessary to buy a defense against bombers that could *not* be destroyed in an initial missile attack. The bomber defense would have to be effective far beyond the U.S. borders because the Soviet Union might buy a very fast (supersonic) plane or long-range stand-off missiles.

The projected Air Force program seems to be designed to have these characteristics. With AWACS, command and control of interceptors is put in the air. A new, fast interceptor arising from a modified F-14 or F-15 would seek out incoming bombers.

Purpose III: Coast Guard of the Air

Here the purpose is to survey U.S. airspace and to announce unauthorized entry into U.S. airspace. No attempt is made to maintain the capability to destroy large numbers of incoming aircraft.

Purpose IV: N-th Country Bomber Attacks

For this purpose, parts of the existing SAGE-BUIC bomber defense might be maintained for defense against bombers of the People's Republic of China or, conceivably, against attacks of the Republic of Cuba. For this purpose, we would not need to fear widescale disruption of the bomber defenses.

Facade Defense Seems Wasteful

The Federation opposes the idea of a Facade Defense. The Defense Department does seem to have conceded that the SAGE-BUIC bomber defense is, indeed, a facade as an anti-Soviet defense.

Bomber Defense Without a City Missile Defense is Like a Chain with a Missing Link

The Federation also opposes Purpose II, the bomber defense designed to protect population against full-scale Soviet bomber attack. We reason, as the metaphor goes, the "chain is only as strong as its weakest link." The major threat facing the United States, and the weakest link in our defense, concerns Soviet missiles. By themselves, Soviet missiles can devastate this country. And the extent to which our country is devastated by these missiles can be determined by the Soviet Union — unilaterally — by building more or fewer missiles.

An effective bomber defense would be very expensive also, necessarily involving AWACS, and the Over-the-Horizon Backscatter radar, and a new air defense interceptor. In 1969, Congressman Henry S. Reuss of Wisconsin argued that a ten

year cost estimate of AWACS/F-106X would be \$12.1 billion, the OTH-B program would cost \$100 million and related SAM-D missile interceptors, if desired, could cost another \$2.5 billion. Professional studies of high-risk electronic systems of this kind always suggest the likelihood of cost-overruns of 200% or 300%. In short, ten year costs for a bomber defense that proposes to be effective would be a few tens of billions of dollars.

Still worse, the bomber defense might not work at all. AWACS is definitely a high-risk electronic project and low performance in such systems is common.

Even if the system worked from an electronics point of view, the Soviet might be able to neutralize it with countermeasures. For example, an excellent question of Senator Dominick's revealed last year that AWACS might not be able to discriminate between decoys and bombers if the Soviets bought a sophisticated penetration aid such as our proposed SCAD.

In the 1968 Status of U.S. Strategic Power hearings of the Preparedness Investigating Subcommittee, Dr. Harold Brown—then Secretary of the Air Force—argued... that if U.S. air defenses were "very weak", the Soviet Union might use their missiles to "disrupt the launch of our retaliatory forces until their bombers could arrive" and destroy "most of our remaining weapons". This argument completely overlooks the existence of Polaris submarines. It is significant that Dr. Brown argues that the Soviets "cannot succeed" in a first strike and explains why without any reference whatsoever to our bomber defenses. Indeed, if the security of our retaliatory weapons depended critically on our bomber defenses, the Nation would be in serious danger.

Dr. Brown also argued that the air defense would permit the Soviet Union to "feel free" to use all its missiles on our retaliatory forces, counting on its bombers to attack our cities. In fact, the Soviet Union can do that anyway. No bomber defense is perfect and no immediate over-riding Soviet interest exists in destroying our cities either promptly or to any fixed extent.

FAS Supports Coast Guard of the Air Capability

We support the notion, Purpose III, of maintaining the "Coast Guard of the Air" capability which we believe would save several hundred million dollars a year over the costs of maintaining the present system.

Tactical AWACS Questioned

If... the Committee concludes that AWACS is not a desirable purchase for strategic defense, it is hard to believe that the very same system is necessarily the best possibility for tactical purposes. After all, in local wars, it is not necessary to have all our command and control off the ground. In local wars, it is dangerous to put airplanes that cost \$40 or \$50 million over enemy territory. Outside the Soviet Union, all nations of the world are acutely aware of the fact that the United States can bomb them much, much more effectively than they can bomb us or our allies. Adversary bomber attack may often be deterred and hence less important than command and control of U.S. fighters.

Quite apart from effectiveness, many members of the Federation would undoubtedly argue that a tactical AWACS... might provide the Executive Branch with an option, and a temptation, to become the world's policeman against bomber threats.

This is not a time in American history when we can afford to buy unnecessary weapons. Today our domestic needs are not simply another priority but a threat to domestic tranquility.

Mr. Chairman, the Executive Branch cannot be depended upon to ask the fundamental "why?" questions about bomber defense or many other weapon systems. This is one important reason why the Federation of American Scientists is appealing to your Committee to ask these questions."

PROTOCOL, from page 1

Asked by Senator Fulbright if the use of "CS" (supertear gas) in conjunction with offensive weapons was not the "lethal use of non-lethal gas"—a phrase evidently taken from the FAS press release (see enclosed text)—Secretary Rogers said it was better than "two lethal weapons". Secretary Rogers twice used the phrase "for the moment" in explaining the Executive Branch position on the understandings. It was painfully evident that the Administration was taking an absurd position on the Protocol simply and solely because it was temporarily using chemical weapons in the Vietnamese war. The Secretary seemed extremely fuzzy. He blandly assured Senator Cooper that these understandings would do no harm to the Protocol itself and attendant attitudes. He told Senator Javits that the understandings were critical to American security. He told Senator Fulbright that the State Department did not know

how many signatories would support our "understanding", and that State had not thought of asking the World Court for an advisory opinion.

The Foreign Relations Committee would probably be derelict in its duty, and foolish, to approve the ratification of a treaty whose meaning was unclear. And in view of the near certainty that neither the treaty co-signatories, nor the World Court, would support the proposed U.S. understanding, the Committee probably has a unique opportunity to preclude an embarrassing rebuke of America by world opinion. After 40 years of waiting, better to wait for the Vietnamese War to end, FAS argued, than to "risk unravelling the carefully built attitudes of mankind that are embodied in the Protocol prohibition of chemical and biological warfare."

A CLOSE LOOK AT PART OF THE WAR

I was used to this sight of cut-off heads but on that day I saw something that made me vomit: one of the young soldiers was holding a liver in his hands—a human liver.

I have often heard that the Vietnamese and the Cambodians eat the liver of their dead enemies believing that they would thus take possession of their strength but I had never met anyone who had personally watched such a ghastly scene.

... I just arrived in time to see one of them leaning over a corpse. He had removed his shirt and his forearms were covered with blood. The corpse had two large holes below the chest and the "butcher" was getting ready to cut out the liver, when he noticed me; immediately, he dropped the organ which he was holding in his hand and stood up with a leap.

... I returned the smile of one of them: "Do you eat liver". "Oh sure". "And how do you prepare it?" "We cook it with vegetables." "What sort of vegetables?" "Oh, Cambodian vegetables. It's very good. If you want to taste it, be my guest." I turned down the invitation.

—Dieter Ludwig, Le Nouvel Observateur, January 11, 1971. This report was documented with photographs taken by the author.

MAKE A SPECIAL EFFORT TO FIND US A NEW MEMBER OR TWO SO THAT WE CAN END THE ACADEMIC YEAR FULFILLING OUR GOAL OF DOUBLING THE MEMBERSHIP.

April, 1971, Vol. 24, No. 4

FAS NEWSLETTER; 203 C St., N.E.; Washington, D.C. 20002

— (202) 546-3300

Published monthly except during July, August and September by the Federation of American Scientists. FAS is a national organization of natural and social scientists, engineers and non-scientists concerned with issues of science and society.

I wish to support FAS and receive the newsletter by becoming a:

- Student Member and I enclose \$7.50
 - Member and I enclose \$15
 - Supporting Member and I enclose \$50
 - Patron Member and I enclose \$100
 - Life Member and I enclose \$500
 - I enclose an additional \$5 plus 50¢ handling for a reduced rate copy of "Race to Oblivion" by Herbert F. York
 - Please send me information on group life insurance.
- Name
- Address
- Zip Code.
- I am a member but wish to renew my membership and I enclose \$ _____. (For my information, members have now been billed twice for calendar year 1971 and are urged to renew promptly.)