

F. A. S. NEWSLETTER

Volume 14, No. 1

January 1961

to provide information and to stimulate discussion. Not to be attributed as official FAS policy unless specifically so indicated.

STATE DEPARTMENT IN STATEMENT TO FAS EASES RESTRICTIONS ON GOVERNMENT SCIENTISTS

The State Department has modified its policy restricting the Government scientists in attendance of international meetings at which Communist China is represented. In the future, the Department will generally permit Federal scientists to participate at Government expense in meetings attended by "unrecognized regimes" provided that they do not represent or speak for the United States Government. This was announced in a letter to D. M. Singer, general counsel of FAS, from Dr. Walter G. Whitman, Science Advisor to the Secretary of State.

Previous Policy Ambiguous

In April, 1960, Dr. Wallace Brode, then Science Advisor, stated: "Any individual listed as officially representing the United States, whether he is a scientist or not, has a responsibility to support his Government's policies on all issues which may arise at the forum where he has official status." In May the State Department refused to permit several employees of the Public Health Service to attend a multilateral meeting in Moscow at which Communist Chinese scientists were scheduled to appear. (See Newsletter 60-5) This policy aroused criticism from some of the Government's scientific advisors and was also questioned at that time by the FAS. In a letter sent by Mr. Singer to the State Department on October 31, the FAS pointed out that a large number of Government scientists were planning to attend the International Biochemistry Congress in Moscow in August, 1961, and requested clarification of State Department policy on attendance at such meetings.

Whitman Clarifies State Department Policy

The text of Dr. Whitman's reply, dated December 19, 1960, stating that the State Department has no objection to the attendance of Government scientists at the Congress, is reproduced here.

"Dear Mr. Singer:

A reply to your letter of October 31, directed to the attention of Mr. Walter Rudolph, was postponed since the matter at issue—the participation of federally-employed scientists in the Fifth International Biochemistry Congress to be held at Moscow next August—was under consideration in the Department.

The Department has recently indicated to the Department of Health, Education and Welfare that it has no objection to that Department's plans for the participation of its scientists in the Biochemistry Congress. This is in accord with the Department's policy of not hindering the participation of Government employees in international scientific meetings if membership and participation are not based upon political considerations and such attendance is in the national interest.

The Department does not usually accredit an official United States Government delegation to take part in international conferences at which the attendance of nationals of unrecognized regimes is expected. This does not, however, preclude Government employees from taking part in nongovernmental meetings at Government expense without accreditation if the Department of State determines that their participation is in the national interest. Without accreditation, a participant does not represent nor speak for his government.

I regret that this reply has been delayed, but hope that it answers your questions.

Sincerely,

/s/ Walter G. Whitman"

POLARIS PROPOSED FOR NATO

At the mid-December meeting in Paris of the North Atlantic Council, the ministerial policy group of NATO, U. S. Secretary of State Herter formally proposed a build-up of NATO forces with nuclear submarines and Polaris missiles provided by the United States. (W. Post 12/17)

As a first step the proposal calls for the U. S. to provide five Polaris submarines carrying about 80 missiles for the use of NATO forces by 1963. These submarines would be assigned to the U. S. Sixth Fleet which, although not now under NATO control, is "earmarked" for NATO; i. e., presumably to come under the NATO Supreme Commander in an emergency. As a second stage to the build-up, it was suggested that the other NATO nations purchased an additional 100 Polaris missiles by 1964 for deployment about Europe. Herter indicated that the nuclear warheads should remain under U. S. control but that NATO consider setting up a standing nuclear force of its own to operate under a multilateral control system. Keeping the missile warhead under U. S. "custody" presumably would avoid the spread of "nuclear know-how." Herter warned however that the nuclear missile force should not substitute for conventional forces and called for NATO to maintain and build up strong conventional means of defense.

The actual details of the proposals have not been worked out and depend on NATO's acceptance of the concept of such a nuclear force operating under multilateral control. Herter also stated that there were many legal, technical and financial problems to be worked out in addition to possible U. S. congressional action. The proposal is now under study within the permanent council and will probably be a subject for major discussion at the NATO ministerial meeting in Oslo next May.

The European reaction is mixed and confused largely because of the many unanswered questions about the details of the proposal. British Foreign Secretary Lord Hume, reporting to the House of Lords, indicated that time is needed to study the concept of "multilateral control" and to reconsider the "purpose of the alliance." Of further concern was the uncertainty of the position of the new incoming U. S. administration. (W. Post 12/17)

Here at home, the National Committee for a Sane Nuclear Policy protested making NATO a "fourth nuclear power." In a statement sent to President Eisenhower and President-elect Kennedy, the group termed the proposal to equip NATO forces with nuclear weapons an action "likely to set off a chain reaction with the Soviet Union." (NY Times-12/17)

NEW ISRAELI REACTOR FOR PEACEFUL USES

The Israeli government has assured the U. S. that its large nuclear reactor now under construction is for peaceful uses only. The recent discovery that the reactor was being developed had set off a chain of speculation and concern over the possibility that nuclear weapons could be interjected into the long-time Arab-Israeli controversy and thus upset the current relative calm that now exists. The official announcement by Israeli Premier Ben-Gurion that the plant "will serve the needs of industry, agriculture, health and science" appears to have allayed these fears. (Washington Post 12/18-23)

LATE BULLETIN

Dr. Jerome B. Wiesner, a member of FAS, has been named Special Assistant to the President for Science and Technology by President-elect Kennedy, to succeed Dr. George Kistiakowsky. Present members of PSAC have been asked to continue to serve in the new administration.

100 MILLION BABIES EVERY YEAR

People! Challenge to Survival. By William Vogt. 257 pages. New York: William Sloane Associates. \$4.50.

By E. J. Leonard

William Vogt's new book on the population explosion may seem somewhat diffuse and belabored with needless argument for those who already recognize the problem inherent in our population increase. But within its pages there is enough new information to make interesting reading.

The world population is now increasing by 50 million per year. The dramatic decrease in death rates during the past 30 years, from 50 to 75% in many areas, indicates how relatively new is this problem of rapid population increase.

Although we are accustomed to comment on the population explosion abroad, we tend to be less aware of the population growth in our own country, which now is increasing at about the same rate as that of India. It is therefore of interest to read Vogt's comments on the domestic scene. By 1975, so the estimate goes, we would need 147 lanes from New York to Los Angeles to park our registered motor vehicles bumper to bumper. Farm surpluses will be only a memory within two decades, according to ecologist P. B. Sears. Pollution problems will multiply. The WHO reports that in 14 years the U. S. has accumulated 60 million gallons of radioactive waste, stored in more than a hundred indestructible (!) steel tanks, at a cost so far of \$65 million. Water, already a scarce resource in many parts of the country, will be in even shorter supply, with many towns and cities rationed. On a recent Sunday afternoon the NYC Metropolitan Museum had 36,000 visitors. The use of our national park system has quadrupled in 20 years. At the same time, obliteration of wildlife habitat continues: Idlewild Airport was built on one of the most beautiful marshes in the NYC area, and in Florida the wading birds are being crowded out by real estate developers. The number of school children is expected to increase from 45 to 65 million during the next 15 years. Shortages of people in various professional fields are developing (see also FAS Newsletter for Dec. '60). The economically self-sufficient will carry an increasing burden to support the indigent that cannot pay their share: one fifth of all the children in America in 1960 were in families who earned less than \$50 per week for 4 people.

But even if the people of the U. S. work and pay for the support of its burgeoning population, is it justified in continuing its present rate of growth? Now, with about 7 per cent of the world's population, the U. S. uses about half of the total yearly production of the world's natural resources; and by 1980 it is estimated that we will be using 83 per cent of these raw materials! Have we a right to thus deplete the rest of the world, simply because we can pay?

Aspects of the relationship between conservation and population problems in other parts of the world are also touched on in this book. In Italy, for example, although the need for watershed reforestation is appreciated, a program cannot be carried out because the land cannot be released from food crop growth. The desperate Indian food crisis is reviewed in some detail, on the basis of a recent Ford Foundation survey, and it would seem that the original document would be worth reading for an appreciation of the complexities in rendering effective foreign economic aid.

Is Vogt a lone voice in his advocacy of population control? Obviously not. The Japanese, with a population of 93 million squeezed into a space smaller than that of California, have cut their birth rate in half during the past decade. Egypt is extending a chain of birth control clinics throughout the country. Norway, Sweden and Denmark are cited as countries in which the attempt to balance population and available resources has been reasonably successful. On the other hand, there are obstacles. One is sex taboos: the display of contraceptives at a recent International Planned Parenthood Conference in Japan had to be restricted because of protests, not from Japanese, but from an American women's club. Vogt cites the Catholic Church as the major obstacle, not only here but in the U. N. where action has been blocked because of objections by countries dominated by the Church. Perhaps a change in U. N. and American policy will come, despite a statement in 1960 by Douglas Dillon that any use of foreign aid funds to provide birth control information was "completely out." But we are surely a long way away from realization of Vogt's suggestion that foreign aid be limited to countries whose self-help includes birth control!

DISARMAMENT DECISIONS REQUIRED OF THE INCOMING ADMINISTRATION

Wm. C. Davidon, Vice Chairman, FAS

Actions taken during the next few months by our government will have a profound and largely irreversible effect on our future opportunities and security. Among those which are being considered are:

1. Resumption of Nuclear Weapons Testing.
2. Nuclear Arming of NATO.
3. Placing of Disarmament Studies Under Military Control.
4. Maintenance and Further Deployment of Worldwide Missile Basis.

These developments will not only create immediate dangers, but will jeopardize progress towards the comprehensive disarmament essential for continued survival and advancement.

Nuclear Weapons Testing

Resumption of nuclear weapons testing would negate the agreements achieved in two years of negotiations. Included in the agreements are an internationally supervised system of control stations, detailed specifications of the instrumentation and operation of these stations, aircraft flights over prescribed routes for air sample monitoring, and other enforcement provisions. Resumption of tests would delay other disarmament possibilities past successive points of no return. It would initiate the testing of large and small weapons by countries which already possess them and soon by others. The U. S. Atomic Energy Commission has attacked these negotiations more than has the Pentagon. A committed Administration would be required to achieve agreement with-in our own government and with others.

Nuclear Arming of NATO

The probability of achieving disarmament necessary for world security is gravely reduced as more countries acquire nuclear weapons. Control becomes increasingly difficult. Nuclearization of more military forces makes for policies which are increasingly rigid and unable to achieve legitimate objectives. It increases the danger that local conflicts and impulsive or inadvertent actions will explode into world disaster. It blocks policies of stabilization and demilitarization necessary for resolution of existing tensions and injustices.

Military Control of Disarmament Studies

Project VELA, conducted by the Air Force and established for the study of detection and evasion techniques for underground nuclear explosions, is our first sizable research project on certain technical features of a problem related to disarmament. The FAS was instrumental after World War II in building support for civilian control of our atomic energy program. Civilian control of disarmament efforts is imperative if they are to be pursued consistently and vigorously, if they are to attract the caliber and variety of personnel necessary to surmount the difficult problems which exist, and if effective channels for implementation are to be kept open.

Overseas Missile Bases

Essentially all of our overseas missile bases are capable only of a first strike, because of their exposed and vulnerable nature. They are provocative to others, and a source of serious instability. Were we to take the initiative in dismantling such bases, it would provide an important impetus for achieving agreement on comprehensive measures for ending military missile developments in all countries.

Actions to reduce instability and change the climate of negotiations are necessary, even when they entail risks. The risks in our present policies are grave and cumulative; we must compare not only the magnitude of the risks, but also the direction in which they lead us. A policy which at best can only prolong by a few years the existence of a doomed society is not a viable one. Abandonment of first strike overseas bases is one of the initiatives upon which we could embark as part of a consistent program to alter rather than react to the world crisis. Others include ending the draft, providing satellite communication and observation facilities to the United Nations, ceasing production of biological and chemical poisons. Many nations have taken unilateral actions which have increased worldwide terror. We now require the insight and strength of purpose necessary to take unilateral actions which decrease terror and which give hope of accomplishing our legitimate goals.

ARMS CONTROL

Arms Control: (Fall, 1940 issue of *Daedalus*, Volume 89, No. 4, of the Proceedings of the American Academy of Arts and Sciences. Edited by G. Holton. 400 pp. \$2.00. Wesleyan University Press, 356 Washington Street, Middletown, Connecticut)

Reviewed by A. H. Fox and G. A. Slack

A review of *Arms Control* can be best aimed at enticing others to read this informative volume. The work consists of twenty-one different articles covering many aspects of the problem. The individual reviews below have been grouped for convenience into general categories, and there is no attempt to do more than expose the central themes of the articles. In many cases such treatment may do injustice to the carefully prepared and documented material. The hope of the reviewers is to evoke enough interest on the part of the reader to make his own conclusions from the volume itself.

The main assumption of all of these essays is, to paraphrase William James, that nuclear war is not an inherent necessity in the social process, but rather an absurd monstrosity. Therefore the main problem confronting the several authors is how to improve the national security of the United States in general, and how to eliminate nuclear war in particular.

Major Issues and Problems

R. R. Bowie of Harvard, D. G. Brennan of M.I.T., W. R. Frye of the *Christian Science Monitor*, H. Kahn of the Rand Corporation, and J. B. Wiesner of M.I.T. have sketched the basic outline of the problems and areas with which arms control must be concerned. They note that the nature of U. S. security must be considered in its physical, political, economic, and social terms. This security is now, in an ultimate sense, guaranteed by military action and threat of action. Herman Kahn has analyzed the various types of events that could trigger such military action on our part. He lists, in order of decreasing likelihood, accidental triggering, "chicken" triggering, and triggering by calculation, escalation, and catalysis. Once pulled, these triggers could involve us in anything from an all-out nuclear attack on the United States to a small brush fire war in some remote area of the world. The concern of these authors with many of these possible cases attests to the broad scope of this issue of *Daedalus*.

The exact type of control mechanism that can be applied to prevent triggering of war depends on the nature of the military machine, and the relevant political conditions in both the United States and Russia. The technical and political features required to control Kahn's Doomsday Machine, whose function is to destroy the earth at a single blow, are rather different from those necessary to control small nuclear weapons, and different again from those for a war machine like Hitler's. At present the only control is a precarious balance of terror. There are many ingenious ways presented to improve the balancing mechanism, and also others to reduce the quantity of terror.

Government Policy and Arm Control

An article by Saville R. Davis, managing editor of the *Christian Science Monitor*, entitled *Recent Policy Making in the United States Government* rehearses the history of arms limitation negotiations since 1920, with particular emphasis on the last eight years. With careful reference to cases, he comes to the conclusion that while Eisenhower

was in favor of a system of control that would prevent cheating, the implementation of such a policy did not have high enough priority in the hands of Dulles to overcome his reluctance to "come to agreement with the Red." Other elements in the problem involved the conflicting scientific opinions, and the direct interest of the Defense Department. The final estimate is that the procedures are inadequate to the need. Senator Herbert Humphrey, in his exposition, confirms in many points the historical discussion of Davis. Humphrey presents a proposal for the establishment of a special Peace Agency as a part of the executive branch of the government, and proposes important revisions in the State Department for raising the status of arms control problems to highest levels. Need for careful congressional supervision and control is also emphasized.

Impact of Arms Control on Our Economy

The article by Kenneth Boulding, Professor of Economics at the University of Michigan, under the title "The Domestic Implications of Arms Control" discusses the impact on the economy of the U. S. if an arms control agreement were to be concluded. He points out the slight amount of research that has been applied to the subject. After showing that the U. S. economy has been subject in the last 30 years to several major shocks due to depression followed by war with sufficient resiliency to recover, he suggests that there is no reason to view with alarm the prospect of peace. He points out that arms control with a complicated inspection system may be even more expensive than the arms race with perhaps greater satisfaction in the expenditure. He makes general suggestions for the absorption of 40 billions or more of the defense expenditure into the peacetime economy in the form of civilian and governmental expenditures. Boulding concludes with the sentences "The grotesque irony of national defense in the nuclear age is that, after having had the inestimable privilege of losing half (or it is three quarters, or all?) our population, we are supposed to set up again the whole system which gave rise to this holocaust! We are, however, totally unprepared for peace, and it may be forced upon us before we really want it."

In an article on "Tasks for a World Without War," Harrison Brown, author of many books and articles on the impact of science on human affairs, considers the problems at home and abroad that would have to be faced if war were eliminated as a method of solving problems arising between nations and groups of nations. By projecting the needs of U. S. and the world for the next fifty years in the fields of raw materials and power production, he concludes that the task of providing for the increased population and raising the industrial level of underdeveloped nations is so great as to provide a challenge to a world free from the threat of war. He concludes that "it is not the lack of technical knowledge or of the earth's resources that are the major barriers to the evolution of a world in which all individuals have the opportunity of leading free and abundant lives. The primary hindrance is man's inability to devise those social and political institutions which can enable us to apply our technical knowledge at the rapid pace the situation demands. Here, no doubt, lies the greatest challenge of a future without war."

(This is the first of two reviews of Arms Control. They are based on oral discussions of the book presented to meetings of MASE, the Schenectady-Troy Chapter of FAS. The second series will appear in the February issue of the Newsletter.)

WEISSKOPF TO HEAD CERN

Dr. Victor Weisskopf, MIT physicist, who recently was appointed a scientific director of the European Organization for Nuclear Research (CERN) (*Newsletter XIII, 9*) has since been named the organization's fourth director-general at the 18th session of the CERN Council held on December 8. He will serve for 2 years, from August 1, 1961. The appointment is particularly noteworthy because the U. S. is not a member of CERN. The CERN Council also announced that, effective January 1, the organization will have 12 divisions instead of six. A spokesman said, "The decision was reached in order to take into account the fact that CERN has passed from the stage of construction to that of actual fundamental research." In addition to administration, finance, and buildings establishment and maintenance, the 12 divisions cover various phases of nuclear research such as the 28,000 Mev proton accelerator, the 600 Mev synchrotron, engineering, data handling and track chambers. The Council also announced that on January 1 Spain will become the 14th member state. (*Science 12/30*)

FAS NEWSLETTER

Published monthly except during July and August by the Federation of American Scientists, 1700 K Street, Northwest, Washington 6, D. C. Subscription price: \$2.00 per year.

Chairman M. Stanley Livingston

The FAS Newsletter is prepared in Washington by FAS members. The staff for this issue were: Editor—E. Shelton; Writers—R. Glasser, E. Leonard, F. K. Millar, and N. Seeman.

The FAS is a national organization of scientists and engineers concerned with the impact of science on national and world affairs.

THE MORAL UN-NEUTRALITY OF SCIENCE

Following are excerpts from an address, "The Moral Un-Neutrality of Science," by Sir Charles P. Snow, prepared for delivery before the American Association for the Advancement of Science in New York yesterday:

The discovery of atomic fission broke up the world of international physics. "This has killed a beautiful subject," said Mark Oliphant, the father-figure of Australian physics, in 195, after the bombs had dropped. In intellectual terms, he has not turned out right. In spiritual and moral terms, I sometimes think he has.

A good deal of the international community of science remains in other fields—in great areas of biology, for example. Many biologists are feeling the same liberation, the same joy at taking part in a magnanimous enterprise, as physicists felt in the Twenties. More than likely, the moral and intellectual leadership of science will pass to biologists, and it is among them we shall find the Rutherfords, Bohrs and Francks of the next generation.

Physicists have had a bitterer task. With the discovery of fission, and with some technical breakthroughs in electronics, physicists became, almost overnight, the most important military resource a nation-state could call on. A large number of physicists became soldiers not in uniform. So they have remained, in the advanced societies, ever since.

It is very difficult to see what else they could have done. All this began in the Hitler war. Most scientists thought that the nazism was as near absolute evil as a human society can manage. I myself thought so. I still think so, without qualification. That being so, nazism had to be fought, and since the Nazis might make fission bombs—which we thought possible until 1944, and which was a continual nightmare if one was remotely in the know—well then, we had to make them too. Unless one was an unlimited pacifist, there was nothing else to do. And unlimited pacifism is a position which most of us cannot sustain.

Moral Difference Seen

Therefore I respect, and to a large extent share, the moral attitude of those scientists who devoted themselves to making the bomb. But the trouble is, when you get on to any kind of moral escalator, to know whether you're ever going to be able to get off. When scientists became soldiers they gave up something, so imperceptibly that they didn't realize it, of the full scientific life. Not intellectually. I see no evidence that scientific work on weapons of maximum destruction has been in any intellectual respect different from other scientific work. But there is a moral difference.

It may be that this is a moral price which, in certain circumstances, has to be paid. Nevertheless, it is no good pretending that there is not a moral price. Soldiers have to obey. Scientists have to question and if necessary to rebel.

I don't want to be misunderstood. I am not suggesting that loyalty is not a prime virtue. But I am saying that loyalty can easily turn into conformity, and that conformity can often be a cloak for the timid and self-seeking.

When you think of the long and gloomy history of man, you will find far more hideous crimes have been committed in the name of obedience than have ever been committed in the name of rebellion. The German officer corps were brought up in the most rigorous code of obedience. To themselves, no more honorable and God-fearing body of men could conceivably exist. Yet in the name of obedience they were party to, and assisted in, the most wicked large-scale actions in the history of the world.

Scientists must not go that way. Yet the duty to question is not much of a support when you are living in the middle of an organized society. I speak with feeling. I was an official for twenty years. The official life in England is not quite so disciplined as a soldier's, but it is very nearly so.

Losing Power to Say 'No'

I think I know the virtues, which are very great, of the men who live that disciplined life. I also know what for me was the moral trap. I, too, had got on to an escalator. I can put the result in a sentence: I was coming to hide behind the institution, I was losing the power to say "no."

Only a very bold man, when he is a member of an organized society, can keep the power to say "no." We can't expect many scientists to do it.

Is there any tougher ground for them to stand on? I suggest to you that there is. I believe that there is a spring of moral action in the scientific activity which is at least

as strong as the search for truth. The name of this spring is knowledge. Scientists know certain things in a fashion more immediate and more certain than those who don't comprehend what science is. Unless we are abnormally weak or abnormally wicked men, this knowledge is bound to shape our actions. Most of us are timid: but to an extent, knowledge gives us guts. Perhaps it can give us guts strong enough for the jobs in hand.

I had better take the most obvious example. All physical scientists know that it is relatively easy to make plutonium. We know this, not as a journalistic fact at second-hand, but as a fact in our own experience. We can work out the number of scientific and engineering personnel it needs for a nation-state to equip itself with fission and fusion bombs. We know that for a dozen or more states, it will only take perhaps six years, perhaps less. Even the best-informed of us always exaggerates these periods.

This we know, with the certainty of—what shall I call it?—engineering truth. We also most of us are familiar with statistics and the nature of odds. We know, with the certainty of statistical truth, that if enough of these weapons are made—by enough different states—some of them are going to blow up. Through accident, or folly, or madness—but the motives don't matter. What does matter is the nature of the statistical fact.

Responsibility Is Direct

All this we know. We know it in a more direct sense than any politician because it comes from our direct experience. It is part of our minds. Are we going to let it happen?

All this we know. It throws upon scientists a direct and personal responsibility. It is not enough to say that scientists have a responsibility as citizens. They have a much greater one than that, and one different in kind. For scientists have a moral imperative to say what they know. It is going to make them unpopular in their own nation-states. It may do worse than make them unpopular. That doesn't matter. Or at least, it does matter to you and me, but it must not count in the face of the risks.

For we genuinely know the risks. We are faced with an "either-or," and we haven't much time. Either we accept a restriction of nuclear armaments. This is going to begin, just as a token, with an agreement on the stopping of nuclear tests. The United States is not going to get the 99.9 per cent "security" that it has been asking for. It is unobtainable, though there are other bargains that the United States could probably secure. I am not going to conceal from you that this course involves certain risks. They are quite obvious, and no honest man is going to blink them.

That is the "either." The "or" is not a risk but a certainty. It is this. There is no agreement on tests. The nuclear arms race between the U. S. A. and the U. S. S. R. not only continues, but accelerates. Other countries join in. Within, at the most, six years, China and several other states have a stock of nuclear bombs. Within, at the most ten years, some of these bombs are going off.

I am saying this as responsibly as I can. That is the certainty. On the one side, therefore, we have a finite risk. On the other side we have a certainty of disaster. Between a risk and a certainty, a sane man does not hesitate.

It is the plain duty of scientists to explain this "either-or." It is a duty which seems to me to come from the moral nature of the scientific activity itself.

Can Transform World

The same duty, though in a much more pleasant form, arises about the benevolent powers of science. For scientists know, and again with the certainty of scientific knowledge, that we possess every scientific fact we need to transform the physical life of half the world. And transform it within the span of people now living. I mean, we have all the resources to help half the world live as long as we do, and eat enough. All that is missing is the will. We know that. (We are sitting like people in a smart and cozy restaurant, and we are eating comfortably, looking out of the window into the streets. Down on the pavement are people who are looking up at us: people who by chance have different colored skins from ours, and are rather hungry. Do you wonder that they don't like us all that much? Do you wonder that we sometimes feel ashamed of ourselves, as we look out through that plateglass?)

Well, it is within our power to get started on that problem. We are morally impelled to. After all, a challenge is not, as the word is coming to be used, an excuse for slinking off and doing nothing. A challenge is something to be picked up. (N.Y.T. 12/28)

DISARMAMENT AND/OR ARMS CONTROL AND FAS POLICY

By M. Stanley Livingston, Chairman, FAS

Advocacy of disarmament is becoming respectable. For centuries disarmament has been viewed with suspicion by those "realists" who use historical precedent as their guide. But times have changed. Now, many responsible observers and even government officials advocate some reduction and control of national military forces, with parallel increase in authority of United Nations police forces to check aggressions. The overwhelming potency of modern nuclear weapons has made the concept of nuclear war between major powers so horrifying that everyone is against it. Even the most conservative and military-minded observers now agree that limitation and control of nuclear weapons is essential, if we hope to avoid a major nuclear war. This general agreement on the necessity for some arms control is one of the most significant consequences of the development of nuclear weapons.

The problem is how to obtain agreement on the meaning of disarmament and/or arms control, and on the most effective (and safest) methods of achieving some useful level of disarmament. There is wide disagreement on the general formulas for disarmament, and also on the many competitive proposals for a "first step." But there is also serious disagreement on the ultimate goal, which can be characterized by the meanings implied in use of the two terms: "disarmament" and "arms control."

Both terms are used (or misused) by individuals whose philosophies are widely different. Enthusiasts for immediate total disarmament of all national military forces down to police levels conceive this goal to be the only true disarmament. Some of these people are pacifists who are willing to depend on the strength of moral persuasion to avoid aggressive misuse of military power. Yet they gratefully accept the term "arms control" when used by others as indicating partial persuasion; in this they are self-deluded.

Others believe that real disarmament means the ultimate elimination of all weapons of mass destructions, but expect it to take a long time and to be accomplished only by many successive small steps. They conceive of a sequence of international agreements, each involving one or more elements of the military system such as one of the major weapons or delivery systems, and each monitored by an international system of inspection to verify compliance. They use the term "arms control" to describe the successive steps and agreements; to them it is the means to the end, but not the goal.

A very much larger number conceive of "arms control" itself as the ultimate goal. To them the maintenance of national military force is essential for national security. "Arms control" means a delicate balance in number and type of national armaments designed to minimize the incentives for other countries to initiate a war. Basically, it is nothing more than military strategy in modern dress, and the international agreements for which they plan are those which would improve their own country's capacity for deterrence. Unfortunately, these spokesmen are only too willing to use the term "disarmament" as a facade to conceal their purpose and to gain public acceptance of their policies.

The stated policy of the leaders of all major powers is eventual comprehensive disarmament; however, actions are limited to exploration of possibilities. Specific proposals have been limited to only a single (or a few) weapons systems, and are consistently designed to favor the country which makes the proposal, in terms of relative deterrent strength. Those who believe in the ultimate necessity of elimination of all weapons of annihilation, i.e., real disarmament, have had to compromise with those who view arms control as a technique of military strategy. This runs a great risk of obscuring the ultimate goal.

FAS Role in Formulating National Policy

The FAS has wavered uncertainly in accepting responsibility for formulating a disarmament policy. Despite the efforts of a few dedicated individuals all attempts to formulate a policy acceptable to the Council have degenerated into almost meaningless generalizations. This is an untenable position for a political action group representing the opinion of socially conscious scientists. It is past time for the FAS to state its policies clearly and with force.

The FAS policy must be long-range, and must firmly set

forth the ultimate goal; it should be flexible enough to allow a wide variety of first-step approaches, but should not attempt to formulate each step in the process. It should distinguish clearly between arms control and true disarmament, and should accept arms control proposals only as a means to the end. It should emphasize the ultimate necessity of international inspection and control under a world of law. In this policy the FAS should not attempt to design a step-by-step disarmament program, nor should it try to formulate compromises between realists and idealists. The need is for a forthright and idealistic statement of the ultimate goals, to supply the leverage for our country to move steadily closer to these goals.

In order to start discussion and stimulate others in formulating a policy position for the FAS on disarmament and arms control, I suggest the following statement for FAS consideration:

"The Federation of American Scientists strongly supports the policy of comprehensive disarmament of all weapons of mass destruction, under a world of law with an international police force to provide inspection and control. Nothing less can be acceptable to anyone with a decent respect for mankind. In working toward this goal a massive effort is required to understand and evaluate the many economic, technical and political factors which lead to international misunderstandings and strife. We urge our government to stimulate and support a greatly expanded program of study of these factors, one which is commensurate with the scope and urgency of the problems involved. Specifically, we propose detailed analyses of the technical problems of systems of inspection and enforcement of disarmament agreements, and of their effectiveness and cost. We advocate international negotiations to clarify areas of concern and distrust, and to formulate plans to remove or minimize legitimate sources of distrust. We advise our government to act quickly in several areas where agreements are potentially within reach, in order to test the sincerity of ourselves and other nations; we advise this even if it involves some short-term risks of unbalance of military deterrents. We believe that some risk is justified in view of the greater risk of failing to act. We consider such arms control agreements to be justified only if they lead to further and more meaningful disarmament agreements, and only if they are adopted as part of a conscious effort to decrease the chance of uninhibited armed conflict. We recognize the need to build confidence in the United Nations as a forum for the discussions of international problems, and to strengthen the authority of the international police force in neutralizing aggressions. Above all we urge that the ultimate goal of true disarmament under a world of law be made the real, as well as the ideal, purpose of U.S. policy."

WASHINGTON NOTES

Presidential Appointments: President-elect Kennedy's appointment of John J. McCloy, a man of international repute, to head the State Department's Disarmament Administration was greeted enthusiastically by most persons who for years have bemoaned the inadequacy of US disarmament planning. McCloy's appointment indicates that disarmament planning will be pursued vigorously and makes possible the adequate funding by Congress of McCloy's operations. In addition, a man of McCloy's stature should have little difficulty recruiting personnel. The appointment of Paul Nitze, formerly chief State Department policy planner under Dean Acheson, as McCloy's counterpart in the Defense Department at least opens the way for adequate communication between State and Defense on disarmament matters. Hopefully, under Nitze, Defense's Project Vela, will serve the disarmament planning needs of McCloy's infant agency.

Four other key posts affecting the scientific community are as yet unfilled: Dr. Kistiakowsky's replacement as head of the President's Science Advisory Committee; Dr. Glenman's replacement at NASA; and the chairman and one member of the AEC.

February meeting: The February FAS Council meeting will be held at 3 p.m., February 4, 1961 in Parlor A. Dinner will be served at 6:30; business will be resumed when coffee is served.

FAS Elections: Please send nominations to: Dr. Charles C. Price, Chemistry Department, University of Pennsylvania, Philadelphia.

U. N. HEARS IAEA REPORT

Cheap nuclear power for various peaceful uses is still about ten years away, the head of the International Atomic Energy Agency (IAEA) told the U. N. General Assembly. Sterling Cole, a former Republican Representative from upstate New York and Director General of the Agency, presented the annual report of the three-year-old U. N. affiliate at the end of its first full year of operation. Mr. Cole urged that a more stable basis be found for financing the Agency's technical-assistance program. At present technical aid is dependent upon voluntary contributions which are consistently insufficient to meet the various objectives. Mr. Cole noted that some nations had not used the Agency as a clearing house for supplying atomic facilities and fuels to other countries, preferring separate agreements instead. Consequently the IAEA has concentrated its main effort on training and research programs, scientific meetings, surveys, and other preparatory and regulatory matters. Mr. Cole mentioned that one member nation (the U. S.) has offered to place four domestic reactors under Agency safeguard procedures, thus allowing teams of international inspectors to supervise the peaceful operation of national atomic energy facilities (See Newsletter XIII, 7). Following Mr. Cole's report, P. D. Morozov, delegate from the Soviet Union, commented that the influence of the U. S. and other Western powers had prevented the IAEA from fulfilling its objectives. He said that these powers tried to establish a system of control in the under-developed countries. (N. Y. Times 12-13)

The IAEA will sponsor two conferences early in 1961. A "Symposium on the Detection and Use of Tritium in the Physical and Biological Sciences" will be held in Europe, probably in Vienna, April 10-14, and a "Conference on Nuclear Electronics" is scheduled for May 15-20 in Belgrade. (AEC Release 12/21)

SHOULD CIVIL DEFENSE BE ABOLISHED?

Sen. Stephen M. Young of Ohio has called for the abolishment of the Office of Civil and Defense Mobilization and the various corollary state and local organizations. In an article in the November issue of the Progressive, Sen. Young indicts the O.C.D.M. for "... waste, inefficiency, unrealistic, in fact, schizophrenic planning; and inability to overcome public apathy. . . ." His main concern is that money (principally from relatively poor local sources) is diverted away from such programs as schools to finance an ineffective program and the salaries of "political has-beens." He would relegate civil defense to the direction of the military, but he points out that "no civil defense program will adequately protect our citizenry should war strike."

Sen. Young's remarks were reinforced by a situation that developed in New York state because of Rockefeller's program requiring all new public buildings to have fallout shelters. The construction of a \$24,000,000 training hospital at the upstate Medical Center in Syracuse could be delayed up to a year (in order to incorporate a shelter after revision of the original plans). (NYT 11/26)

FAS NEWSLETTER

Federation of American Scientists
1700 K Street, N.W.
Washington 6, D. C.

Vol. 14, No. 1

January 1961

HOLIFIELD CALLS FOR US LEADERSHIP IN NUCLEAR TECHNOLOGY

In an address before the combined Atomic Industrial Forum and American Nuclear Society's annual meeting in San Francisco, December 14, Congressman Chet Holifield, Chairman of the Special Subcommittee on Radiation of the Joint Committee on Atomic Energy, stated that leadership should be the cornerstone of our national atomic policy. He called for a realistic evaluation of nuclear frontier goals to determine those which appear most promising. Once these have been selected, he indicated that we should move forward with a sense of urgency but without recklessness. (Joint Committee on Atomic Energy Release 12/14)

Two other speakers who addressed sessions of the Atomic Industrial Forum were Francis K. McCune, retiring president of the Forum and a vice president of the General Electric Company, and Robert McKinney, publisher of The Santa Fe New Mexican and author of many Government-sponsored reports on nuclear policy (See Newsletter XIII, 8). Mr. McCune chided his industrial colleagues for using "complexities" stemming from Government control in the atomic energy field "as an excuse for inactivity." He called upon the industrialists to face and deal with the Government control problems instead of using them as "crutches to lean on." He urged industry to renew active competition for research and development dollars from the Government and to put more emphasis on long-range planning. (N.Y. Times 12/16) Mr. McKinney called for strengthening the western world through cooperative planning of effective atomic research and development programs by this country and Western Europe. He said that the development of cheap atomic power and other projects are hampered now because of lack of coordination among Western research agencies. (N.Y. Times 12/17)

DUMPING RADIOACTIVE WASTE IN SEA CALLED UNSAFE

At the National Conference on Water Pollution held in December in Washington, D. C., the practice of dumping "low-level radioactive wastes" in the sea in concrete containers was attacked. Dr. Chauncey Leake, Dean of the College of Medicine, Ohio State University, pointed out that it represented "the most serious potential danger to our long-range health so far as water pollution is concerned." He was chiefly concerned that the concrete containers would eventually rupture—at a rate as yet undetermined—and that the radioactive contents would be distributed by water currents to come in closer contact with man. (W. Post 12/14)

The recent dredging up of a container from one of the since-abandoned shallow water dumps has focussed public attention on this problem, but the AEC believes its deep water dumping program to be safe. For a good summary of the problem, see the May 1960 issue of the Bulletin of Atomic Scientists.

Second Class Postage
Paid at
Washington, D. C.

CARL MOOS
30 LORFIELD DRIVE
SNYDER N Y
M-2