from Director Foster of the Arms Control and Disarmament Agency. "While there will always be some risk of cheating and of a surprise abrogation," he said, "the gains to the United States far outweigh these risks." At present, he said, the United States is ahead of the Soviets in the development of tactical nuclear weapons, and the "point of diminishing returns in improving weight-yield ratios is fast approaching."

If the Soviets observe a test ban, Foster said, our lead will last longer, since their development work will be limited to the laboratory; if they cheat, there is a strong possibility that they will be caught, since the United States would not go in for an agreement that did not include inspection. While single tests might sometimes escape detection by seismic means, he stated, "a test series would be far more difficult to hide. Yet, little progress can ordinarily be made with individual, isolated tests." In addition, Foster noted, "for the weapons development and knowledge of weapons effects which are of primary concern to us, and which might make a substantial change in the military balance in a way which would be unfavorable to us, clandestine underground testing would be unsatisfactory."

Foster also addressed himself to an argument that is frequently raised against a test ban—that U.S. testing capabilities would erode during a ban, just as they did during the unpoliced moratorium which the Russians broke in the fall of 1961. Revealing publicly for the first time that the administration has been developing plans in this connection, Foster said, "in case of an agreement, the government will make it a matter of national policy to maintain readiness to test and to provide funds necessary for this and for the incentive program necessary to keep competent scientific talent available. Under these circumstances, our scientists should retain the incentives to continue nuclear weapons research and our weapons laboratories should function effectively. This is not insurance against surprise abrogation, but would minimize the possibility of a long Soviet head start in preparations for testing."

Finally, Foster made a plea—a seemingly futile one—for "a continuing bipartisan effort in this crucial area of United States foreign policy."

If an accord were to come out of Geneva, what would happen next? Procedurally, a test ban agreement would have to be ratified by a two-thirds vote of the Senate or by a joint resolution of the majority of both houses. It is likely, however, that the administration will have done some careful nose-counting before it takes a test ban to Capitol Hill, for Congressional rejection of an agreement would cause an international political disburbance that would have a calamitous effect on this nation's image as a promoter of peace. Administration officials agree that it would be better to avoid a congressional fight than to lose it. No formal ban could take the simple form of an executive agreement, since the act establishing the Arms Control and Disarmament Agency states that "no action shall be taken to disarm or to reduce or to limit the Armed Forces or armaments of the United States, except pursuant to the treaty-making power of the President under the Constitution or unless authorized by further affirmative legislation by the Congress . . ."

While the Geneva talks are now in a state of deadlock, with the Soviets demanding that the United States come forth with some concession, the administration is beginning to pay more attention to the state of public opinion on the test ban. Last week, without any public announcement, officials of the Arms Control and Disarmament Agency met with representatives of a number of nongovernmental groups that have been involved in promoting arms control and disarmament activities. Various aspects of the test ban issue were discussed, including the problem of public support.

Independently of this meeting, the Federation of American Scientists has invited each Senator to attend or send a staff member to breakfast briefings next week at which FAS representatives will discuss the test ban.

During the last session of Congress, FAS held similar briefings on civil defense and the establishment of the Arms Control and Disarmament Agency. The attendance was high, and members along the entire political spectrum agreed that the briefings laid out the issues in a dispassionate and informative fashion.—D. S. GREENBERG.

Science Information: Local Groups To Inform Public On Policy Issues Establish a National Institute

New York. Representatives of a score of independent groups of scientists organized to inform the public on scientific and technical aspects of public policy issues met last weekend in New York to discuss the future of the scientific information movement.

Some 100 scientists from around the country attended the 2-day conference and divided their time about evenly between discussing first principles of the movement and devising ways and means to strengthen and expand it.

The principal formal action of the conference was to create a Scientists' Institute of Public Information to serve the local groups as a clearing-house for information, to improve liaison and, if possible, to raise money.

To give the institute form and substance, the conferees also elected a 21-member board heavily weighted with members whose names are prominent in the scientific-philanthropic complex and who can be expected to benefit the institute not only by the quality of their judgments but also by the luster of their prestige, which is of the brightness that attracts foundation support.

At the end of the meeting the conferees also unanimously passed a resolution stating that scientists in the information movement, as represented at the conference, "subscribe to certain guiding principles:

"1. Information is presented unencumbered by political or moral judgments, which judgments are the prerogative and responsibility of all citizens.

"2. Information is prepared with scientific objectivity, which includes attention to divergent studies and interpretations.

"3. Information is freely available to all."

Absent from the resolution was any explicit reference to whether, or under what conditions, a scientist engaged in educating the public on scientific matters related to a public issue should add his personal opinion on that issue. It was evident from the discussion on drawing the line between information and persuasion — the topic which kindled the most heated exchanges of the weekend — that the question has

troubled the members of the movement since the beginning, and that many members regard it as a properly open question.

The information movement was pioneered by two groups established in 1958, the St. Louis Citizens Committee for Nuclear Information (CNI) and, in New York, the Scientists Committee for Radiation Information (SCRI), which, as the names suggest, were at the outset primarily concerned with hazards involved in the uses, particularly the military uses, of nuclear energy. Later groups have modeled themselves on the original committees and have in the main followed their lead by dealing with the effects of radiation, particularly those of strontium-90 and iodine-131 in fallout.

As prototypes, the two original groups differ in that New York's SCRI includes only scientists among its 40 active members, while CNI in St. Louis welcomes laymen. The nonscientists among CNI's 650 members not only contribute through membership fees and by unburdening scientists of routine tasks but also provide closer links to the community.

Most groups stress their speakers' bureaus which perform the primary function of bringing the scientist and the citizen face to face. All make efforts to provide advice on technical questions to newsmen and public officials. St. Louis has its "baby tooth survey," a collection of thousands of deciduous teeth for radiation analysis, and the Western Montana Scientists Committee for Radiation Information, in Missoula, is seeking funds to finance an antler study.

Concern over radiation in peace and war has moved many groups to prepare information on the effects of nuclear weapons and, particularly in the period of debate over civil defense during the summer of 1961, to contribute technical data relevant to the shelter controversy.

Editors of the chief publication of the information movement, *Nuclear Information*, published by the St. Louis committee, are devoting a series of issues to nuclear war and civil defense.

At least one new group became a subject of controversy when either the members or the public failed to make a clear distinction between the group's giving information on civil defense and opposing it, but the members of the group feel they have weathered the storm that blew up.

The movement's interest in radiation has been broadening to include hazards involved in the industrial uses of nuclear energy and such older problems as hazards caused by improperly shielded diagnostic x-ray machines.

At the conference in New York there appeared to be general agreement that the information movement should address itself to a wider range of problems in which education of the public on scientific matters could result in better public policy decisions—for example, on air and water pollution, fluoridation, transportation problems, and uses of pesticides.

There is no doubt, however, that the main motivation of those now active in the information movement is the threat of nuclear war. Many at the meeting obviously agreed with the participant who stated his views as "disarm or die." In fact, many of the individual members of information groups who feel that scientists are morally obligated to express their own opinions on which policy choices should be made, do in fact say what they think about, for example, a test ban or disarmament when they are speaking to audiences.

A working rule favored by the senior organizations seems to be that the information groups should never as a group take a position on political or ethical questions, but that members of the group may provide both information and personal opinion so long as the opinion is clearly labeled. To guarantee the integrity of the scientific information, it is felt, a scientist in the movement should be willing to publish what he says and have it subjected to review and criticism by other scientists.

The unanimity of the vote on conference questions at the end of the tightly scheduled and smoothly run conference was probably assured by the careful way in which participants were invited from among those who returned questionnaires. That unanimity to some extent conceals the tension, which appears to be built into the information movement, on the question of whether the scientists should actively persuade as well as inform.

New Board

The new institute board is made up both of persons of general prominence and of energetic younger scientists—most of them in the biomedical fields—who have been active in the movement. Its members are as follows.

Nathan E. Cohen (Western Reserve); James P. Dixon, Jr. (Antioch); Theodosius Dobzhansky, Rene Jules Dubos, Ludwig Edelstein, and Edward L. Tatum (Rockefeller Institute); Lytt I. Gardner (State University of New York); Hardin B. Jones (California); Margaret Mead (American Museum of Natural History); Russell H. Morgan (Johns Hopkins Hospital); Jason J. Nassau (Case Institute); Warren Weaver (Sloan Foundation); Warner Wells (University of North Carolina).

Barry Commoner and John Fowler (Washington University); Jules Hirsch (Rockefeller Institute); Gerson Lesser (New York University); Jacques Lipetz (Manhattan College); Allen C. Nadler (Cleveland Metropolitan General Hospital); E. W. Pfeiffer (Montana State); Halsted R. Holman (Stanford).—JOHN WALSH.

Civil Defense: New Office Seeks Links with Scientific Community

Last year, in a letter to Congress, President Kennedy said that "postponement of practical measures to shield our people from fallout radiation cannot be justified by the inevitable imponderables and the continuing need for a greater research effort." He was not able, however, to assuage the doubts of many segments of Congress, the scientific community, and the public about the soundness of the administration's civil defense plans.

The continued criticism of the technical assumptions underlying the government's program has now been followed by the establishment within the Office of Civil Defense (OCD) of a Directorate for Technical Liaison. Its stated purpose is to "assure that OCD policies, programs, plans and executive actions are fully consistent with and predicated on sound technical and scientific concepts." To the extent that these functions were performed before, responsibility for them was diffused throughout OCD.

The new office, staffed by two engineers with long service in the government's civil defense operations, will try to establish contact with scientists and others throughout the country whose work bears on civil defense problems. The office is headed by Gerald R. Gallagher, Director for Technical Liaison, Office of Civil Defense, Department of Defense, Washington 25, D.C.—E.L.