

Italian press reports confrontation over beams, 'nuclear winter' at Erice meeting

We excerpt here a sampling of the Italian press coverage of the Aug. 20-23 Ettore Majorana Seminar on nuclear war, held in Erice, Sicily.

La Stampa, Aug. 22, "Soviets say that the U.S. x-ray laser is not effective against ballistic missiles," by Ettore Bianucci.

Lowell Wood, the father of the x-ray laser, is very calm when he introduces a new economic unit, a trillion dollars. According to Wood, this is the level of investment the U.S. will require to build an impenetrable shield against Soviet nuclear missiles during this century. . . .

At the Erice symposium, these revolutionary weapons provoked a great technological, economic, and political debate.

Vasilyev of the Soviet Academy of Sciences distributed a 50-page photocopied document. Laser weapons of every type (x-ray, infrared ray, ultraviolet ray) are analyzed through complicated mathematical formulas. The conclusion is that they are technologically improbable, too expensive, and strategically destabilizing. These are also Vasilyev's arguments in his brief intervention. Wood responds bluntly: "Nobody who is scientifically trained can deny the feasibility of these weapons." . . . Vasilyev counterattacks: "The United States is aiming at the militarization of space, and wants to destabilize the present balance between the superpowers. Our studies show that the x-ray laser has a range of only 3 km."

This time it is John Nuckolls, head of the Physics Department at the Lawrence Livermore Laboratory, who answers: "Three km. is the range of the gamma rays of an atomic blast: In the case of the x-ray laser, this range has to be multiplied by 10,000, and the Soviets know it very well, because they are working on the same type of weapon, with twice the investment of the United States. . . . A space station," explains Nuckolls, "costs \$30 million, but can destroy nuclear missiles worth from \$300 million to \$3,000 million. It would be crazy to continue to build missiles when it is at

least 10 times more convenient to defend ourselves from enemy missiles."

General Umberto Capuzzo, Chief of Staff of the Italian Army, tries to mediate: "Deterrence should not be achieved only with instruments of war, but also with diplomatic and political actions." He expresses the concern that these new weapons, by erecting an impenetrable defense of the U.S., would induce the White House to give up its commitment to Europe and go for a new isolationism.

To this objection, Wood and Nuckolls have a ready answer: "The x-ray laser has to strike as soon as the enemy missile is launched, before it is known whether the nuclear warheads are directed against Europe or the United States. Therefore, the shield also protects Europe, whatever the political choice may be concerning the alliance, commitments, etc. . . .

La Repubblica, Aug. 21, "To stop atomic death: The star weapons are feasible," by Vladimiro Odinzov.

. . . Professor Robert Budwine of the California research laboratory said that the aim of the experts is to build defense systems capable of destroying 99.99% of incoming warheads. And it seems that this level of efficiency is technically feasible.

Il Popolo, Aug. 24, "Peace only through cooperation," interview with U.S. conference participant Dr. Lowell Wood, by Luca Lauriola.

Q: Do you think that Euro-American cooperation in the development of a system of anti-nuclear defense is possible?

A: Strategic defense implies that you hit missiles in the boost phase. It is therefore in America's interest to destroy them wherever they are directed, at the U.S.A. or Europe. Many American and European technological resources are at the same level. The U.S. does not have a monopoly over tech-

nologies. In fields such as sensors and telecommunications, Europe is very advanced. In some of these fields the U.S. is even inferior, and therefore cooperation is indispensable.

La Nazione, Aug. 23, "It would be nice if we could develop the atomic shield together," by Rosario Poma.

"It is time for the old continent to wake up," commented Professor Zichichi. "Let's give humanity 10 years of certain peace. Let's study, together with the Americans, the Soviets, and the Chinese, defense systems against deadly weapons. Then let's stop. If these shields can be planned in cooperation among the U.S.A., U.S.S.R., Europe, and China, the shields will not be destabilizing. They will help to prevent a Nero of the year 2000 from pushing the apocalypse button."

Il Secolo XIX, Aug. 23.

. . . The divisions emerge among the U.S. scientists, above all within the group coming from Livermore Laboratory, of the University of California, the most important U.S. research center concerned with military questions. Even at Livermore there are "hawks" and "doves." The leaders of the former are Robert Budwine and Lowell Wood, the inventor of the x-ray laser, the lethal weapon the Americans are counting on to construct an impenetrable anti-missile umbrella out in space. The chief of the "doves" is Joseph Knox, the director of the Physics Department at Livermore, and an expert in climatology.

The disagreement involves one fundamental question: the usefulness of producing and propagandizing "post-nuclear" predictions which, according to Budwine, would be completely unreliable, given that there are too many variables at play, and too many elements needing to be analyzed and subjected to elaboration by computer: "Besides, there is no possibility whatever to obtain experimental data, since it is not possible, for this purpose, to make an H-bomb explode over a big city just to see what will happen."

The position of the "two" can only be understood if the political motivations are clarified. And these are expressed, in a very clear way, by a magazine called *Fusion*, put out by an extreme pro-American group, which is circulating among conference participants. The basic hypothesis is that the "nuclear winter" would be a psychological warfare operation conducted by the KGB, and that it would be based on unreliable and unprovable hypotheses, useful only for arousing panic in the West, feeding the American and European pacifist groups. Even the noted film "The Day After," according to this logic, would be a masterful operation conducted by the Soviet espionage system.

Edward Teller sent greetings from the U.S.A. He also maintains that the consequences of a nuclear war would be quite different than the Soviets say: The temperature of the

planet would not be lowered by more than 2° to 3°, contrary to the Soviet projection of a decrease of 40°.

Il Secolo XIX, Aug. 25, "I fear that laser," an interview with Soviet conference participant Dr. Alexei Vasilyev, by Enrico Pedemonte.

Q: At the Erice conference, the Americans described their projects and you just listened. Then they attacked you: You know what we are doing, but you keep a firm "top secret" on what you are doing.

A: The American accusations on this point are very contradictory. On the one side, they tell us that we are ahead of them in the weapons field in general; on the other side, they pretend they don't know what we are doing. How is this ambivalence possible? Where is the trick?

Q: Where is it, Professor Vasilyev?

A: It is a myth which must be destroyed that we know all of the American programs. We know what the mass media say, what scientists publish in scientific magazines. That's all. But we don't know anything about the real state of American research.

Q: What do you think of this program of beam defense? Is it really impossible to realize it?

A: This is not the main point. The most important point is political, not technological. What worries us are the political consequences. The realization of such a system will launch a new arms race. More and more powerful weapons will be invented, capable of breaking the beam defense. And there is a second point which worries us: This system is too expensive. . . .

Q: The Americans say that you are ahead in the study of these systems.

A: This is an odd slogan. Every time an American government wants to pass a strategic (or non-strategic) program to produce new weapons, it turns out that the Soviet Union is far ahead. This has always been the case, under every administration from the time of Kennedy.

Q: Wood was very aggressive toward you. What do you think of his behavior?

A: Wood is a bit too nervous a gentleman. Such behavior is not normal in scientific meetings. . . . Anyway, Wood does not represent all American scientists; many think differently.

Q: Do you really think that there is a deep split among American scientists?

A: I really do think so. Represented here in Erice is mainly that group coming from the Livermore Laboratory known as the Teller group. But I am convinced that there are many contradictions in the U.S. scientific community.