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## Interview: Dr. Lowell Wood

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# Will the Alliance adopt a crash program for beam-weapon defense?

*Dr. Lowell Wood is the head of a Special Studies Group at Lawrence Livermore National Laboratory. An astrophysicist and expert in laser research, he has been aptly described by Dr. Edward Teller as playing the same role in the development of beam weapons to defend against nuclear missile attack that Teller himself played in the development of the hydrogen bomb. When Teller, in an Oct. 27, 1983 speech to the National Press Club, first came out in favor of a strategic defense system, he attributed his shift to the persuasive arguments of "several of my young colleagues." Dr. Wood was certainly one of those he had in mind. EIR conducted this interview with Dr. Wood on Aug. 21 in Erice.*

**EIR:** Many opponents of strategic defense in Europe have advanced the thesis that strategic defense would lead to a separation of European defense from American defense, that beam defense could lead to a Fortress America less interested in defending Europe. You have advanced the idea that it is part of the logic of the scientific techniques involved that the defense would be common defense. Could you comment on this?

**Wood:** Strategic defense involving boost-phase intercept of ballistic missiles will necessarily be interested in intercepting these ballistic missiles before their destinations are known. That is to say that a truly effective boost-phase strategic defense will defend everybody from the ballistic missiles, wherever they are headed. This is inescapable as far as the techniques and technologies involved in boost-phase defense are concerned. You will fire on the boosters before their destinations are well pinned down.

**EIR:** Would the same thing apply for the mid-course and the low-level, or point-defense, phases?

**Wood:** That, of course, should be geographically specialized. But there's no reason whatsoever to believe that specialization could not include Europe, could not include the Pacific Basin allies, etc. That is to say, mid-course defenses, terminal phase defenses could be employed every bit as aptly by democracies on the European continent as they could on the American continent. I would expect, although this is a

policy matter and not a technical one, that the United States would make that technology and perhaps even the turnkey systems available to its allies in Europe and the Pacific Basin.

**EIR:** You also mentioned that some European allies are just as advanced in certain areas of technology as the United States, and that the Europeans could therefore contribute to the development of these defensive systems. Could you elaborate on that?

**Wood:** I said that the allies in Europe as well as in the Pacific Basin had a great deal to potentially contribute, not only in respect to sharing the burden of developing, deploying, and operating strategic defenses as far as resources were concerned, but also in respect to talent and technology. The

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population of the allied states is substantially greater than that of the U.S. Talent levels are most assuredly comparable, so that a pan-alliance development of strategic defense would involve bringing two or three times the amount of talent to bear.

It would also involve bringing technologies to bear in which the U.S. is perhaps inferior relative to some of its allies. Examples include some sensor and telecommunications technologies, in which the European allies are incom-

parably advanced or perhaps somewhat in advance of the United States. For instance, digital data processing technologies for which the Japanese are rather certainly in advance over the United States. In other words, there is a set of technologies needed for strategic defense and the U.S. does not have a monopoly on these, [the U.S.] is, indeed, not preeminent in all of them. The eminence is shared among the Western Alliance, specifically the European members.

**EIR:** Your colleague Dr. Nuckolls also pointed out that the availability of beam defense would also tend to remove doubts about the United States' response to an attack on the allies. Do you share that view?

**Wood:** Certainly. At the present time, there necessarily has to be some doubt among reasonable people as to whether the

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United States would risk its civilization in order to defend European civilization. The challenge could be posed sufficiently sharply by the Soviet Union, so that at least I am sure there would be some bodies of thought in the United States to say that "we would certainly like to defend the Europeans but we put our own lives and our own civilization at great risk in doing this, so let's try and get by with something less." That, of course, would severely compromise the territorial integrity and independence of the Western Alliance's European members.

Strategic defense, not necessarily involving directed-energy beams exclusively, but strategic defense as a concept, certainly points in the direction of people everywhere being uniformly defended by technology rather than by policy or politics. That is to say that if you have the hardware and the means of employing it, you can guarantee your own defense, and you don't need to be dependent on someone else and the vagaries of domestic and international politics for your physical safety.

**EIR:** The Soviet delegation here has distributed a report of the Soviet Academy of Sciences which tends on the whole to assert that strategic defense is impossible. What do you think of this document?

**Wood:** The document I've seen, which has been extensively

circulated at this conference, is distributed by a Soviet Committee of Scientists for Peace and Against Nuclear War, which is chaired by Soviet Academician Yevgenii Velikhov, and which includes, among members listed on the first page of the report, a number of other distinguished Soviet scientists, some of whom are academicians and at least one of whom is present at this conference.

It is very difficult to believe that this document has been written or even carefully reviewed by these scientists, because they are, indeed, not only some of the most eminent scientists in the Soviet Union, but they are world-class scientists, while the document is of distinctly mediocre quality. There are some grave technical errors and it speaks to some matters of a legal, political, diplomatic, ethical, etc. nature in which its authors cannot be considered experts in any sense. They are not diplomats, they are not politicians, they are not ethicists. By their training and by their contributions to international science and technology, they are manifestly scientists and technologists. But sticking just to the area I can very confidently speak of, namely the scientific and engineering content of this document, it is gravely flawed, and it is flawed in a fashion that any objective observer could point out. I just happened to be the one who emphasized its very serious flaws. So I suspect that this, although it is very widely circulated in the West, must have the character of a draft document. It simply cannot be taken seriously as a finished product. It's far too gravely flawed.

**EIR:** The Soviet representative here of the U.S.A. and Canada Institute, Vasilyev, said, among other things, that the x-ray laser can't work because its range would tend to be less than 10 kilometers. Do you think that is correct?

**Wood:** He quoted from this document which, as I said, has flaws which any competent undergraduate in the United States—or anywhere else for that matter—could point out. These are extremely fundamental flaws; they are seemingly of both a conceptual and an algebraic nature. So I think that as soon as Dr. Vasilyev reviews this matter, as he assured the conference yesterday that he would do, he will realize that the apparent basis for the Soviet assessment of strategic defense as far as its technical feasibility is concerned, if the document constitutes that basis, then that basis has very fundamental flaws, which I hope will result in a Soviet reassessment of the technical feasibility of strategic defense. If this document represents the level or the sophistication of Soviet thinking in this area at the present time, we can hope for very, very substantial improvements. There is essentially no way to go but up.

**EIR:** Vasilyev also indirectly asserted that the Soviet Union has no program involving strategic defense, beam weapons, or anything of the kind. Many people believe that the Soviets do have these programs and that indeed they are ahead. Do you think they have these programs? How do you think it looks between the United States and the Soviet Union?

**Wood:** I don't believe that there is any doubt on the part of anybody in the West that the Soviets have very extensive programs in the development of beam technology, charged-particle technology, neutral-beam technology, laser technology of various sorts, ranging from the infrared to the ultraviolet. These are all extensively documented in the open Soviet and international literature. So there can be no doubt that the Soviets have a large program in these areas.

These programs are generally assessed in the West to be substantially larger in size, in number of people working, in resources being expended, and so forth than comparable programs in the West, but that's more a matter of judgment. It is undeniable that these programs all exist and exist in an unclassifiable fashion, that is, they are known and assessment of them is available to anyone who studies the open literature. As to what the Soviets have on ballistic-missile-defense programs, I think that it's very widely agreed in the West that the systems around Moscow and in European Russia are not just anti-aircraft defense capabilities, but represent substantial capabilities against tactical ballistic missiles and intermediate-range ballistic missiles. Furthermore, these programs are the only ones in the world—the Soviet Union is unique in having a deployed anti-ballistic-missile system of some level of capability. This system is capable of being advanced because of the Soviet operational experience with it. Because of its production-line capability, it is capable of being advanced relatively very rapidly, compared to anything that could be advanced in the West, to a full-scale robust antiballistic-missile system, that is to say, one which can be effective against intercontinental ballistic missiles as well as intermediate-range ones.

**EIR:** You indicated in your talk a time-frame for various kinds of U.S. strategic defense, and you distinguished between a serious program on the one hand and a crash program on the other. What would be a serious program and what would a crash program look like?

**Wood:** Actually I spoke of three levels of programs. The first one is the one the U.S. is engaged in at the present time—research only. This is rather undeniably the case. It is not oriented toward a system that could be deployed and operated, but it is simply research. The second level, as I said, would be a serious program of the type that characterized the Apollo effort to put a man on the moon in a decade in the '60s. There were definite goals, definite timetables, definite national commitments to go out and do it.

A crash program is the intensity level of the program that existed for example, in the United States during the Second World War to realize nuclear weapons—the Manhattan Project.

These are the three kinds of programs that can possibly exist. The United States is in the first phase program—no goals, no timetables, no anything, except a commitment to spend modest amounts of resources on research to explore what might be technically possible.

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## Interview: Prof. A. A. Vasilyev

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# 'We do not want a technical discussion'

*EIR interviewed Prof. A. A. Vasilyev, department head, U.S.A. and Canada Institute, U.S.S.R. Academy of Sciences, at Erice on Aug. 22.*

**EIR:** One year ago, the Soviet delegation here at Erice was prepared to talk about international cooperation for war avoidance and peaceful coexistence through anti-missile defense, as shown in the "troika" declaration of Academician Velikhov, Professor Teller, and Professor Zichichi. Now the Soviet delegation is not willing to talk about that. Why?

**Vasilyev:** That is really not an honest question. We are ready to talk to American scientists—to the Union of Concerned Scientists and to the American Federation of Scientists, for example. We have met with them. The Americans here are only from the x-ray laser group, and so they are a very partial representation. They want to involve us in a purely technical discussion. We cannot accept this. We want to discuss with all American scientists and not just about technical questions. Anyone who says that strategic defense will end the arms race is not right. We have distributed a study and the Americans disagree. Then let them say that in addition to the 10 points we make there, that there is another, an 11th point, that changes the whole result. But not just in a technical discussion. They claim that defense, on the one side, will be made cheaper. But that will not end the arms race. When one side builds defense, the other side will resort to anti-defense, leading to anti-anti-defense, and so forth. The arms race would go on. Special weapons would be developed to stop cruise missiles and other low-flying objects. You know what Soviet proposals have been in this area. We want to stop the militarization of space. We also want mutual reductions in the numbers of nuclear weapons.

**EIR:** Your Marshal Ogarkov in his speech on May 8 said that weapons systems based on new physical principles are a reality of the immediate future. Doesn't this mean that the Soviet Union is also building lasers and beams for anti-missile defense?

**Vasilyev:** I don't know. But when you start an arms race, then you get the dynamic of an arms race! I can only repeat what I said before: We want to stop the militarization of space and reduce the number of nuclear weapons on both sides. Thank you and good-bye!