

DDP ARIZONA NEWSLETTER **Doctors for Disaster Preparedness**

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STAR WARS IN 1995?

Is Star Wars research designed to delay or prevent the actual deployment of defenses? While senior government officials say that nothing practical can come from the SDI program for 15 to 20 years, physicist Robert Jastrow urges deployment of a basic defense as soon as possible -- by 1995 or even sooner.

In an article in the Washington Times (August 8), Jastrow described the requirements for the system: "smart bullets," like the heat-seeking missiles routinely used in air defense; infrared "eyes" and laser radar, which could be carried on a stripped down Boeing 767 called the Airborne Operational Adjunct; and satellite and/or ground-based rockets to launch the interceptors. A system called ERIS is under development by Lockheed. Although this system might be used to defend targets like missile silos, Jastrow points out that the "footprint" of high altitude interceptors -- the size of the region they defend -- is large: about the size of the United States and Canada combined.

The Soviet campaign against US strategic defense has reached new heights of sophistication and duplicity, including forgeries of purported official documents. A report published by the Arms Control and Disarmament Agency refutes the claims of Soviet propagandists (for example, that SDI is part of a first strike strategy). The report is available from ACDA, 320 21st St NW, Washington, DC 20451). The Soviets also claim to have cheap countermeasures, such as launching payloads of gravel into orbit. Jastrow calculated that about 500 million tons of gravel would be required (one pebble per cubic foot throughout a volume of 1000 cubic miles), at a launch cost of about \$200 trillion. He noted also that satellites could be made capable of defending themselves.

Despite the promise of SDI, including the successful June 27 test that simulated shooting down a short or medium range ballistic missile, the program is in trouble. The Senate has proposed the Johnston amendment that would cap funding at last year's level.

SDI will be hurt by the problems afflicting the space program as a whole, such as the series of seven explosions of normally reliable boosters since August of 1985 (Nike Orion previously had 120 straight successes; the Delta, 43; the shuttle, 24) The Soviets now have an unequivocal lead in space ventures, according to John Lewis of the University of Arizona (presentation before the UN Association of Tucson). Reginald Turnill, editor of the London-based publication Jane's Spaceflight Directory, said the Soviets were so far ahead in space that "they are almost out of sight."

Given the decline in our spacefaring abilities, and our unwillingness to commit ourselves to defense, could Star Wars possibly be underway by 1995?

Some think so: but the Star might be red. A diagram that looks rather like the High Frontier proposal for a layered system appeared in the Soviet journal Tekhnika i Vooruzheniye -- in June, 1982, almost a year before Reagan's "Star Wars" speech.

LINNEMANN TO SPEAK ON MEDICAL RESPONSE AT CHERNOBYL

Roger Linnemann, MD, architect of the US plan for responding to nuclear reactor accidents, will speak at the annual DDP meeting in Dallas, Oct 18-19, in place of Dr. Ricks. Dr. Linnemann, who speaks Russian, recently met with Soviet physicians in Vienna to discuss the medical consequences of Chernobyl. He said that 135,000 people were evacuated. A military civil defense plan was put into action. Casualty management was very well organized, he said: "it almost seemed that they might have done this before."

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CHERNOBYL: FALLOUT IN EUROPE

From the American press, it has been difficult or impossible to ascertain the radiation doses received by Europeans due to fallout from Chernobyl, or the degree of contamination of the produce that was destroyed. Reports in the Tageszeitung Berlin, collected by Joachim Zeisel, gave the following measurements: Beef contained a maximum concentration of 150 becquerel/kg Iodine 131, and 60 bq/kg Cesium 137. "Highly radioactive" milk in Baden-Wuerttemberg contained 1300 bq/liter. One farmer swore never to drink another drop of milk. Between 4000 and 16000 bq/kg were measured in Bavarian vegetables. The Bavarian minister for the environment, Alfred Dick, was not very concerned: "After all, nobody's going to eat a kilo of chives in a day," he said. An angry housewife promised him a carpet of radioactive salad leaves.

For perspective, 4000 atoms of potassium-40 disintegrate in a human body every second; thus, the human body contains 4000 bq of K-40. Consumption of 1 kg of food contaminated with cesium-137 at an activity of 800 bq/kg results in the same cancer risk (less than 1 in 10 million) as external exposure to 1 millirem (mrem). (Normal background is seldom less than 100 mrem/year, and often higher than 200 mrem/yr.)

Brazil nuts are naturally 20,000 times as radioactive as baked beans. One would only have to eat 100 gm of Brazil nuts to ingest 1000 bq.

Estimates of the number of cancer deaths expected over the next few decades as a result of the fallout vary from a few thousand to more than 100,000. The most pessimistic estimate would raise overall cancer mortality in the western Soviet Union by only 1%. (Refs. J Institute of Civil Defense Apr-June 1986; Science 12 Sept 86, p 1141.

EVACUATION AFTER CHERNOBYL

In a Berlin newspaper article based on Soviet press reports and official statements, Harald Schumann wrote that within 2 hours and 40 minutes of receiving the evacuation order, 25,000 people had left Pripyat in a 20-km long column of buses and trucks requisitioned from neighboring regions. Not all the citizens left their homes voluntarily; the militia brought some of them by force. It seemed incredible that the evacuation was delayed for 36 hours, since the fire should have been visible from Pripyat. Schumann speculated that the fire might have started relatively late in the accident. About two weeks after the event, Georgi Arbatov told the Soviet people in Pravda: "The accident is judged by all to be rather serious."

Uncovering the full truth about the accident would require years or decades, Schumann said, due to the "Schweigemauer" (wall of silence) of Soviet officialdom.

