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LEFTWING SCIENTISTS ATTACK STAR WARS WITH PHONY SCIENCE

The arguments leveled by some well-known scientists at Ronald Reagan's Star Wars proposal (also called High Frontier) don't stand up to scientific examination. They are false by factors of 25 to 1,600, according to Robert Jastrow, a former NASA physicist and now a Dartmouth College professor.

The Union of Concerned Scientists (UCS) attacked the High Frontier proposal on the argument that "thousands" of satellites would be needed to provide an effective defense. The UCS put the precise number at 2,400 satellites. This argument was supposed to demolish Star Wars because it is estimated that each satellite would cost a billion dollars and, if "thousands" are needed, the plan would indeed be a "turkey" as the UCS called it.

Dr. Jastrow examined all the evidence from both sides, conducted his own experiment and calculations, and came up with the conclusion that 100 satellites were adequate. The Livermore Laboratory concluded that 90 satellites would suffice, and we might get by with 45. So, the cost of the system would not be many trillions of dollars but would, instead, be a sum that can easily be absorbed in the amount already earmarked for spending on our strategic forces during the next 10 to 15 years.

How did the UCS explain its exaggeration of the number of satellites by a factor of about 25? The UCS never admitted its egregious error; but at a Congressional committee, a UCS spokesman lowered its estimate from 2,400 down to 800 satellites. In a more recent publication, the UCS dropped its estimate further to 300.

The UCS report also claimed that the Star Wars proposal would require putting a 40,000-ton device in orbit, a weight which would make the proposal ridiculously impractical. Dr. Jastrow shows that UCS made a mistake by a factor of 1,600; the correct weight of this device is 25 tons (about the same payload carried by a single NASA shuttle).

The Office of Technology Assessment (OTA) came forward with a different piece of phony science to try to discredit the High Frontier proposal. The OTA said that, if we try to build a real defense, the Soviets would simply build more missiles in an effort to

"overwhelm" our system, and we would have to increase the number of our orbiting satellites in direct proportion to the increase in the number of Soviet missiles.

If true, this would have the effect of making the High Frontier program politically and financially impractical. Since our satellites would be very expensive, a trade-off of one new U.S. satellite for each new Soviet missile would be too costly.

But the OTA report is very erroneous, according to the theoretical physicists at Los Alamos and at Livermore. Scientists at both laboratories showed that the number of satellites we would need to counter a Soviet attack would be only in proportion to the square root of the Soviet missiles. This means that, if the Soviets build four times as many missiles, we would have to build only twice as many satellites to prevent them from "overwhelming" our defense.

Put another way, Dr. Jastrow explains that, if we build 100 satellites, and the Soviets want to "overwhelm" our defense (which means building enough new missiles so that the number getting through our defensive shield would be the same as if we had no defensive system), the Soviets would have to build more than 5,000 additional ICBMs and silos. If the Soviets did this terribly expensive thing, the United States could counter their thousands of new missiles with only 100 additional U.S. satellites.

The cost trade-offs favor the defense over the offense. The Soviets would be bankrupted long before we begin to feel any pain.

In another sample of pseudo-science, the OTA asserts that, in the third or terminal phase of the defense, we would need 280,000 "smart" mini-missiles to destroy the Soviet warheads after they are over the United States. According to Dr. Jastrow, competent professionals have concluded that no more than 5,000 would be needed.

Dr. Jastrow explains that the OTA is off by a factor of more than 50 because it made the irrational assumption that we would need to defend every single U.S. missile site against the entire Soviet missile force. It is absurd to argue that the Soviets might launch their entire missile force against one of our 1,000 Minuteman missile sites.

The anti-Star Wars scientists have biased their own conclusions by an error known in the trade as a GIGO calculation (garbage in, garbage out). If you make an original assumption that is absurd, your conclusion will likewise be absurd, even though your mathematics are completely accurate.