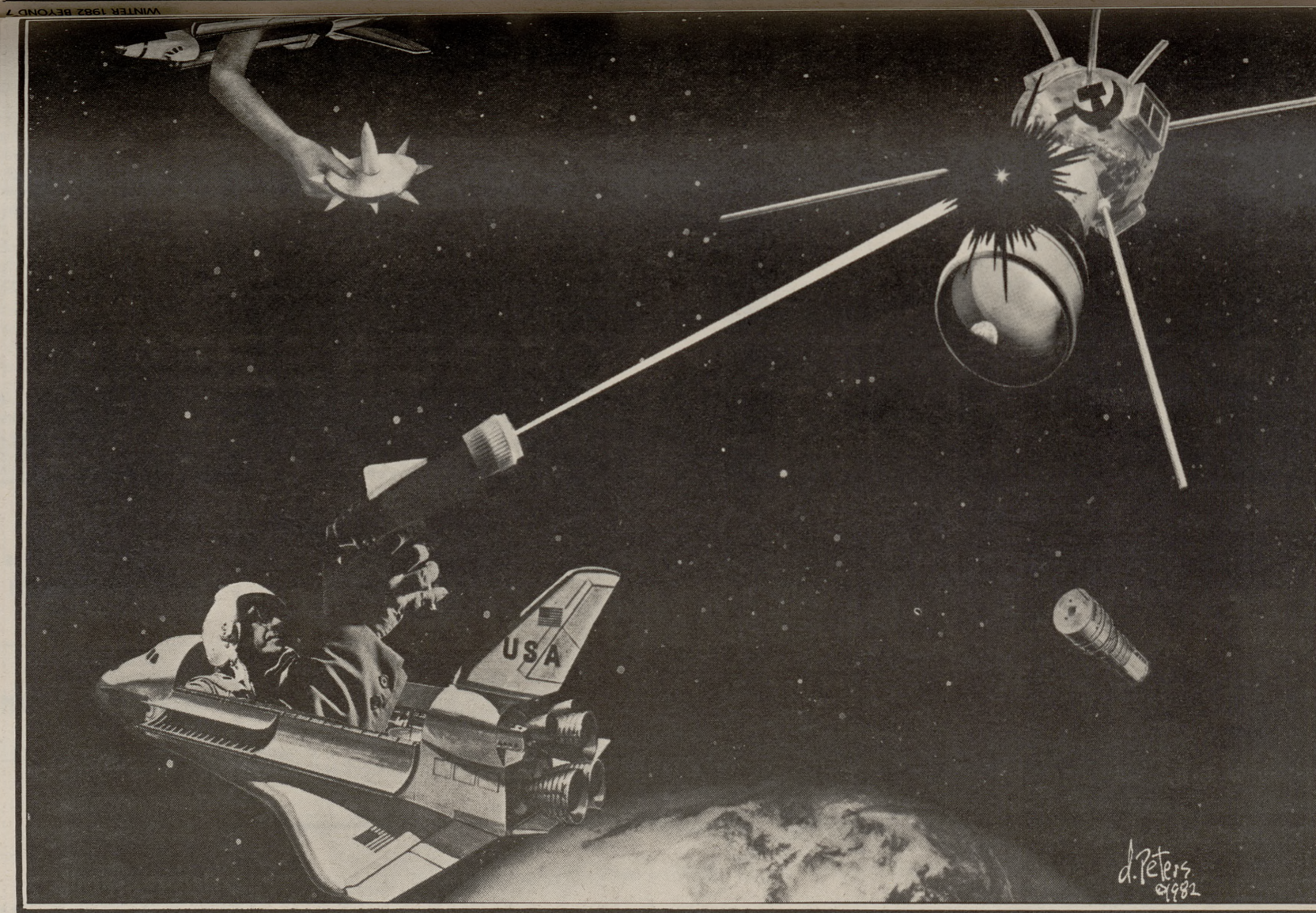


Peace through Strength, whose co-chairman, retired Lieutenant General Daniel O. Graham, skeptical conclusions about the military usefulness of laser weapons in space and they raise frighten-



DAVID PETERS

INVASION OF SPACE

BY H. BRUCE FRANKLIN

Battle stations in space bristling with energy-beam cannons. Hunter-killer satellites firing gridlike projectiles too tenuous to be targeted. Swarms of automated space mines shielding orbiting command posts that direct squadrons of diminutive space cruisers. This kind of scene that once gave respectable science fiction a bad name is now part of the future actually being planned for us.

A different kind of science fiction — in which the human race matures, unites, and explores the cosmos—now seems less probable than it did just a few years ago. As recently as 1975, U.S. Apollo astronauts linked with Soviet Soyuz cosmonauts in a handshake that momentarily made space a zone of scientific cooperation and even friendship. But today the U.S. program for scientific exploration of space has been almost entirely usurped by a program for the military exploitation of space. High-placed Pentagon officials now talk of possible space battles between the United States and the Soviet Union sometime between 1990 and 2010.

This year's federal budget includes at least \$10 billion for military space programs (exactly how much is classified). This sum approximately equals the combined amounts allocated to the National Science Foundation, the National Institute for Health, the National Endowment for the Hu-

manities, the National Endowment for the Arts, Elementary Education and Secondary Education. A Directorate of Space has recently been established by the Defense Department, and the Consolidated Space Operations Center, a new military space complex, is under construction at Peterson Air Force Base in Colorado. "Space is the high ground" has become the slogan of those boosting the militarization of space, such as Lieutenant General Richard Henry, commander of the Air Force's new space division.

The centerpiece of the Pentagon's design is the space shuttle. Present plans call for all military spaceware to be launched by the shuttle by 1985, when the \$2 billion military spaceport presently being constructed at Vandenberg Air Force Base, California, is due for completion. In early October, 1981, the civilian director of NASA's shuttle project was replaced by Air Force Major General James Abrahamson, thus confirming some of the critics' predictions about military control of the program.

Prior to April, 1981, 21 of the planned 68 shuttle flights through 1985 had been booked by the military. By May, the total planned operational flights had been reduced to 32, and further budget cutting may pare this down to 24, leaving only three shuttle operations available for purely non-military projects. "The military use of the shuttle is going to be dominant, while civilian uses will be minor," declares Dr. James Van Allen, discoverer of Earth's radiation belts; "NASA's going to be trampled to death by the Defense Department on shuttle use,

so why not be honest about it and call it a military program?" Astrophysicist Eric Chaisson of Harvard flatly states: "The mission of the shuttle is to launch military satellites."

Many scientists are appalled by the damage already done to the scientific space program. Only two U.S. voyages to the planets are now even tentatively proposed for the rest of the century, and neither of these is being considered for launch prior to 1988. One new budget proposal calls for closing the civilian space-tracking network, thus even pulling the plug on interplanetary probes still transmitting data. So Voyager 2 may pass Uranus in 1986 and Neptune in 1989 without any communication with Earth.

Although NASA's most important purpose, as defined by its charter, is exploration of the solar system, astronomer Joseph Veverka, chairman of NASA's Comet Science Working Group, believes that "the institutions that control funds clearly regard science as not useful" while regarding "military applications" as "sacred." Dr. Veverka claims that "the space science program has been almost destroyed."

Critics of the new military plans for space do not argue against the existing use of satellites for military communication, navigation, and surveillance. In fact, spy satellites are now almost universally acknowledged to be a major help in preserving the peace. Cameras on both U.S. and Soviet satellites are able to record objects smaller than a "suitcase" from altitudes greater than 100 miles.

Thus they keep each of the two major nuclear powers assured that the other is not launching a surprise attack, and also provide the "national means" of verification and inspection essential for present and possible future arms limitation treaties.

One of the main arguments against the new weapons being designed for space is that they jeopardize the survival of these orbiting sentries. These peace-keeping satellites are already on the verge of being threatened by two of the new arms under development — killer satellites and beam weapons.

While the United States has been developing an anti-satellite weapon known as the MHV ("miniature homing vehicle") launched from aircraft, the Soviet Union has already conducted at least eleven successful tests of an anti-satellite satellite, all launched from a complex in central Asia. The Soviet killer satellites detonate themselves as they close on their target, destroying or disabling the other satellite with a shower of pellets or shrapnel. None has yet attacked a test target orbiting higher than 600 miles, far below the 22,300-mile geosynchronous orbit of some key satellites.

These weapons are considered primitive by the proponents of beam weapons. Air Force chief of research and development Lieutenant General Kelly Burke claims that laser weapons "would equal the invention of gunpowder or of atomic explosives." Feverish lobbying for beam weapons is being conducted but the influential Alliance for