

## Star wars

# US Senate urges restraint on space weapons tests

## Washington

CONGRESS has begun to flex its muscles to prod the Reagan Administration to resume the stalled negotiations with the Soviet Union on banning weapons from space. The Senate voted unanimously last week to block money for space tests of the first US antisatellite (ASAT) weapon. And the Senate Foreign Relations Committee passed a strongly-worded resolution calling for a ban on all space weapons, including those that might be developed under the President's futuristic plan for a "star wars" defence against ballistic missiles.

The fact that both resolutions have come from the traditionally friendly Senate has jolted the administration. But neither is expected to bring the space weapons programme to a halt. The withholding of test money, proposed by Massachusetts Senator Paul Tsongas, had to be riddled with loopholes to win the support of the Republicans. Thus the administration will be allowed to go ahead with the tests if it can certify that it has tried "in good faith" to resume negotiations, and that the tests are necessary to protect national security.

Proving that the tests are necessary should not be difficult under the relaxed certification rules of the Senate. The ad-

To comply with the Senate resolution, the administration need not actually enter negotiations with the Soviet Union, but must show that it is "willing" to negotiate. The administration has already begun to hint that it is more open-minded than hitherto about the prospects for negotiation. An official of the Arms Control and Disarmament Agency (ACDA) said last week that the administration might accept a Soviet suggestion that a group of scientists from each country should begin to discuss — but not negotiate — some of the issues involved. And the administration has suggested including anti-ballistic missile systems in the continuing Strategic

## Largest dinosaur from Surrey



THE spectacular clawbone of a new species of carnivorous dinosaur was revealed last week by Dr Alan Charig and a team from the British Museum (Natural History) in London after the discovery by Mr William Walker, an amateur palaeontologist, of parts of a skeleton in a clay pit in Surrey, southern England, earlier this year.

Dated at 124 million years, from the early Cretaceous, the find is important because remains of carnivorous dinosaurs of this period have been very scarce. When restored it will help to bridge the gap between the more abundant finds from the late Jurassic and late Cretaceous.

Although preliminary assessment suggests that this dinosaur may be similar in general morphology to the carnivorous *Megalosaurus* and *Allosaurus* of the late Jurassic, the huge clawbone is quite distinctive. To what use this was put, however, remains speculation.

Nigel Williams

Arms Reduction Talks (START) in Geneva.

Advocates of an immediate moratorium on the development of space weapons regard most of these moves as cosmetic. Representative Joseph Moakley (Democrat, Massachusetts) delivered two letters to the White House last week arguing that tests of the American ASAT, planned for later this summer, should be cancelled. One letter, signed by 100 members of Congress, says that the new weapon, which can be fired from under the wing of an ordinary F15 fighter, is far more capable than the Soviet system, which is ground-launched and must orbit the Earth at least once before attacking its target.

The second letter, signed by more than 40 scientists and arms control experts, warns that deployment of the American ASAT could pose severe verification problems and preclude later negotiation of a limit on space weapons.

The 1967 outer space treaty prohibits the placing in orbit of "nuclear weapons or any other kinds of weapons of mass destruction". Moreover, the 1963 partial test-ban treaty prohibits nuclear tests in space, while the anti-ballistic missile (ABM) treaty (1972) includes an undertaking not to "develop, test or deploy" ABM systems which are "sea-based, air-based, space-based or mobile land-based".

The administration is meanwhile pressing ahead with plans to develop a space-based defence against nuclear attack. A study team, led by former NASA administrator James Fletcher, is expected to complete an initial feasibility study by October. Supporters of the "star wars" concept appear nevertheless to be deeply divided about how the project should be handled.

Some of these differences surfaced publicly for the first time last week during a bad-tempered Senate debate begun by Senator Malcolm Wallop, a Wyoming Republican with a long-standing belief in the need to establish chemical laser weapons that could destroy incoming ballistic missiles. More than 20 senators voted with Wallop on an amendment to concentrate most research funds for nuclear defence on three existing laser projects — Alpha, Talon Gold and Lode — and place them under the army's ballistic missile defence organization. Unless this was done, Wallop complained, the Reagan initiative would be swallowed up within the Department of Defense bureaucracy and produce endless research but no weapons.

Claiming that the three projects promised workable technology that could be converted rapidly into weapons, Wallop accused presidential science adviser George Keyworth and other "confused and self-contradictory" officials in Washington of being preoccupied with exotic technologies that were years away while ignoring the opportunities to build laser weapons already at an advanced state of development.

Peter David



ministration will be able to argue that since the Soviet Union possesses the world's only operational ASAT system, the United States needs one of its own. It may be harder to convince senators that the United States has tried in good faith to resume the ASAT negotiations broken off by the Carter Administration as a result of the Afghanistan crisis in 1979. In 1981, the Soviet Union presented the United Nations with a draft ban on space weapons, but the Reagan Administration has insisted that negotiations cannot start until the United States is assured that compliance with a treaty can be verified.