

lider, HEPAP's highest priority recommendation. Also, the department will continue to give high priority to upgrading Brookhaven's existing proton accelerator, the AGS, and will give serious consideration to a project that would ultimately fill the empty CBA tunnel with a relativistic heavy ion collider.—**M. MITCHELL WALDROP**

Delay Spells Trouble for Spacelab

A 1-month delay in the launch of Spacelab, due to a serious technical problem involving the space shuttle's booster rockets, has left the National Aeronautics and Space Administration (NASA) and the European Space Agency (ESA) with some unpalatable options for critical laboratory experiments. Spacelab is now due to go aloft aboard the *Columbia* on 28 November at the earliest, but some of its astronomy and earth observation experiments will be so seriously constrained by the orbital mechanics then that NASA and ESA officials are looking for ways to refly them next year.

The solid rocket boosters are those immense white crayons on either side of the podlike external fuel tank. About 2 minutes into a launch they are jettisoned into the ocean and recovered for reuse. In September, however, it was discovered that the exhaust nozzle lining on one of the August boosters had eroded away in irregular chunks, instead of ablating smoothly. If the booster had fired for another 8 seconds, the lining would have burned through; 6 seconds after that, the nozzle itself would have been breached.

That was too close a call for NASA, especially since one of the boosters on the upcoming Spacelab flight contained nozzle liner from the same batch as the eroded one. No one is yet sure what caused the problem. Pending a resolution, however, the agency decided in mid-October to scrub the launch, bring the *Columbia* back from the launchpad to the Kennedy Space Center's vehicular assembly building, take the whole shuttle assembly apart, and replace the suspect booster nozzle with one whose liner is from a different batch.

While all of this is proceeding,

NASA officials are in a quandary over the new launch date for Spacelab. Constraints are tight. The astronomers want a new moon for minimum background light. The ESA earth observations team wants to see Northern Europe when it is free of fog and snow. And the plasma researchers want long periods in darkness to watch the artificial auroras created by Spacelab's electron beam.

Unfortunately, the closer the launch comes to the winter solstice (21 December), the more time the shuttle spends in daylight, and the worse the weather in northern Europe. All things being equal, it would make more sense to bypass the November new moon and wait until February. But all things are not equal. Spacelab cannot wait much longer before research materials start to degrade and instruments begin to drift out of calibration. A February launch would require a major overhaul.

One possible way out of the quandary would be to fly Spacelab in November, then refly the most seriously compromised experiments on later shuttle flights in 1984. Quite aside from the cost, however, it is not clear that this would even be physically possible in every case. Nor is it clear that there would be room for extra cargo in next year's shuttle manifest. But NASA is studying the question seriously. The decision between a November or February launch date—which will be a joint decision with ESA—will depend on the outcome. Word is expected this week.

—**M. MITCHELL WALDROP**

Insider Nominated for Disputed ACDA Post

The Administration is moving to fill the long-vacant post of assistant director in charge of nuclear nonproliferation matters at the Arms Control and Disarmament Agency (ACDA). The nominee is Lewis A. Dunn, currently assistant to Ambassador Richard T. Kennedy, the State Department's top official on nuclear nonproliferation policy.

The ACDA post, which requires Senate confirmation, has not had a permanent occupant since the start of the Reagan Administration. For 2

years, a group of conservative Republican senators blocked the confirmation of two officials they regarded as holdovers from the Carter Administration (*Science*, 17 December 1982, p. 1203)—Norman Terrell, who had been nominated for the ACDA nonproliferation job, and Robert Grey, who was up for deputy director. Both left ACDA. The agency director at the time, Eugene V. Rostow, who had sponsored the nominations, subsequently resigned.

Dunn, 39, joined the State Department in 1981 as an assistant to Kennedy. He is a former senior fellow of the Hudson Institute and author of *Controlling the Bomb*,* a study of nuclear proliferation problems published in 1982 as a report of the Twentieth Century Fund.

The ACDA deputy director's post was filled earlier by the appointment of former Maine Republican Representative David Emery, defeated in 1982 in a run for the Senate.

—**JOHN WALSH**

*Yale University Press.

The Pros and Cons of the Research-Teaching Link

In unusually candid remarks at a press conference shortly after learning he had won the 1984 Nobel Prize in Chemistry, Stanford professor Henry Taube provided some illuminating perspectives on the links between research and teaching.

His ground-breaking work in the early 1950's on electron transfer between ions in solution was based on ideas developed while preparing a lecture course at the University of Chicago, he said. "I knew nothing about coordination chemistry, and what I knew bored me silly. I thought I should learn something about it and in preparing my lectures for the course, I became interested. . . . My early work in Chicago was really based on what I learned in preparing for that course."

Taube ruefully admitted, however, that teaching has recently lost its attraction for him. "I get virtually no response from the students. . . . High school and undergraduate education has changed so much that I'm really not aware of what they know and don't know."—**COLIN NORMAN**