

news in brief

Harvard makes mathematics mandatory: In a far reaching revision of its undergraduate curriculum Harvard University will demand mathematics proficiency from its entire student body. All Harvard entrants will be required to show proficiency within their first year in three areas: applications of the function concept to the real world; probability and statistics; and in the use of time-shared computers. The mathematics requirement will have further effects in raising the level of instruction of the new science requirements for non-science students. All students will be required to take a one semester course in a physical science ("predictive and deductive analysis and quantitative treatment of data") and a one semester course in a biological science ("descriptive treatment of complex historical or evolutionary systems"). Harvard's move, because of its great prestige in the US, is expected to have widespread implications for the whole of US higher education.

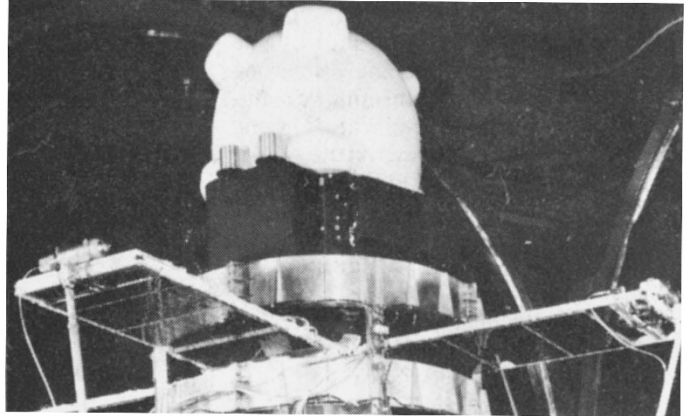
Spanish dockers block uranium import: The Spanish dockers union has boycotted the vessel *Covadonga* carrying nuclear fuel from the US for a power station under construction at Leimoniz in the Basque country. The boycott applies to every port in Spain and the vessel was diverted to Bordeaux. The Spanish unions appealed to unions throughout Europe for solidarity and French dockyard workers refused to handle the cargo. The ship is now reportedly bound for Cadiz in Spain. The Leimoniz power station is strongly opposed within Spain; it has been the subject of armed attacks by Basque separatists who have the support of the Left opposition and the trade union movement.

New study challenges efficacy of nuclear energy: A new study claims that nuclear power is "technically incapable of providing a timely and significant substitute for oil." A 50% replacement of oil by nuclear power by the year 2000 would require ordering one large power station every 3.5 days. The study, by Amory Lovins of Friends of the Earth, argues in addition that the energy supply problem is "90%" one of heat and portable liquid fuels. Lovins says that if every oil powered station in the OECD in 1975 had been replaced overnight by nuclear stations the fraction of OECD oil which is imported would have only been reduced from 65% to 60%. And at the same time there would be a greatly increased dependency on imported capital and uranium. The maximum role for nuclear power is in providing electricity which is only 10% of all primary energy. Lovins also reviews 19 studies from eight countries and estimates that conservation measures can hold steady or reduce energy needs while maintaining economic growth. Two British studies indicate that growth can triple while total energy demands could be reduced by one half.

"Is Nuclear Power Necessary?" by Amory Lovins. Friends of the Earth, 9 Poland Street, London W1V 3DG.

Pillinger to appeal case: David Pillinger, a biochemist made redundant at the Christie Hospital in Manchester (25 January) will take his case to an appeals tribunal. An industrial tribunal ruled against Pillinger last month finding that he had not been unfairly dismissed from his permanent post as Senior Grade Scientist at the Christie because of a lack of funding from the Medical Research Council. The appeal must be based on a point of law with no further consideration of the facts of the case. The question to be raised will "involve the whole three cornered relationship between employer, employee and granting agencies" says Pillinger. In Pillinger's case, a third party has been per-

mitted to exercise the right to hire and fire without giving reasons for its action. According to Pillinger's solicitor the case is "fundamental to the whole concept of unfair dismissal".



UK6 due for launch this week: The UK's sixth scientific satellite (above) is due for launch this week aboard a NASA Scout rocket. It is the last of the UK/Ariel series and carries three high energy astrophysics experiments: a cosmic ray detector for studying ultra-heavy cosmic rays; an x-ray telescope system for studying x-ray sources in the range 0.1–2.0 keV; and experiments for observing variable x-ray sources with high time resolution in the range 1.2–50 keV. UK6 will be the last purely British scientific satellite for some time at least although the UK is still negotiating with NASA over the development of a multi-mission refurbishable satellite.

EEC takes steps to meet energy crisis: After a delay caused by UK objections to EEC coal buying policy, the Council of Energy Ministers has approved European Community Commission research proposals covering energy saving, geothermal energy, solar energy and coal gasification. The Council has allotted 55 MEUA (£36m) over four years for energy saving projects and 95 MEUA (£63.3m) for research into alternate energy sources. In the UK, the EEC has provided 21 MEUA (£14m) for nine demonstration projects in energy saving. The applications selected under the scheme include three heat recovery projects (in steel making, plaster board manufacture, and in a swimming pool recreation complex) five heat saving manufacturing devices and a monitoring system of energy consumption.

In the meantime, the Union of European Community Industries (UNECI) has issued a report calling for a massive expenditure of 373 billion UA for investment in energy production and an additional 350 BUA for energy prospecting and for research and development. The UNECI report estimates that 650 new coal mines, six natural gas fields, and oil production equivalent to seven Niagras and 600 nuclear power stations will be needed to meet a projected doubling of energy requirements by 2000 AD.

Skylab falls soon: The US National Aeronautics and Space Administration announced last week that it was expecting the 85-ton Skylab space station to fall to Earth between 26 June and 9 July, with 2 July as the most probable date. According to the agency, most of the space station, which was launched in 1973 for carrying out research into activities in space, will burn up as it enters the atmosphere. However between 400 and 500 pieces are now expected to reach the surface of the Earth, scattered along a path 4,000 miles long and 100 miles wide.