feelers and develop reciprocal research projects with Argentina. Through the council's office in Buenos Aires, Argentine universities would suggest projects for possible cooperation and the council would then approach the universities in Britain. Travel expenses were paid by the visiting country's organization, the council or Conicet, and subsistence by the host. The council has now closed its office in Buenos Aires and recalled its staff.

When the Falklands crisis broke, eighteen jointly-funded university projects were under way. In the past year the British Council has sponsored 7 long-term scholarships, 36 visitors and 17 lecture trips. The numbers may not be great but the Royal Society, the British Council and many academics have expressed their profound regret that the present situation may put a big question mark over such agreements.

Several promising projects have been nipped in the bud. Imperial College and the Centro de Investigaciones Ópticas (CIOP), La Plata, have for the past eighteen months been discussing the setting up of a joint laser physics research project. Professor G.H.C. New of Imperial College recently paid a visit to Argentina to give a series of lectures and arrange future collaboration. As well as exchanging postdoctoral fellows on extended visits — beneficial for each party in providing highly specialist researchers free — it was also hoped that a British specialist would go out to Argentina to teach and act as a consultant at CIOP.

Professor J. Barber (Pure and Applied Biology, Imperial College) has also recently been to Argentina to coordinate a joint photosynthesis research project. The oceanography department at the University of Southampton has been making moves to coordinate research with Argentina, particularly in the area of oil exploration. Professor A.P.M. Lockwood has been closely involved in talks to set up training exercises particularly in his capacity as a delegate of TEMA (Training and Education for Mutual Advantage), part of UNESCO's International Oceanographic Commission.

Both Argentine and British scientists are concerned that the Falklands crisis will seriously damage opportunities for scientific cooperation. In particular, many Argentine scientists in Britain are worried that if they leave the country to attend conferences abroad, they may have problems getting back into Britain. In April, both Britain and Argentina introduced a visa requirement. A spokesman for the Home Office did say, however, that he could not foresee any problem if Argentine nationals applied for re-entry visas before leaving the country. What is clear is that many academics feel uncomfortable in a situation where politics is impinging on their research. As one who has recently visited Argentina said, "They're a wonderful country and wonderful people. It's very, very sad".

Jane Wynn

Australian telesatellites

Outback opened

Canberra

Australia will have its own domestic communications satellite by the end of 1985. In a statement to the House of Representatives on 6 May, the then Minister for Communications, Mr Ian Sinclair, announced that Hughes Communications International will build the space segment of a domestic satellite. The system, known as Aussat, will be owned and operated from the start as a commercial venture by Aussat Pty Ltd. Although Aussat is at present wholly owned by the federal government, the government intends to sell 49 per cent of its equity to the private sector as soon as practicable, in line with its free-market policy principles.

The contract with Hughes, the sealing of which seems imminent, specifies three satellites for the system — two in orbit and one on ground standby, with the option of a fourth satellite should demand justify it. The satellites will have an operational lifetime of seven years and function in the super-high frequency (gigahertz) range with four high-power and eleven low-power transponders. The net result will be a versatile satellite of limited capacity, primarily suitable for television networks. Provisional bookings with the European Ariane launch vehicle and with NASA's Space Shuttle or Delta rocket have been secured. The fixed-price package offered by Hughes, including the launching and construction of two ground control stations, will cost A\$166 million (£95 million). Of this, only A\$5.1 million will be spent on local technology, which is a sad reflection on the dearth of innovation in the Australian electronics industry.

Aussat promises a glittering array of services including direct television broadcasting to widely scattered homes throughout the continent, business communications and remote educational and medical services. Both the School of the Air, plagued by poor reception, and the Royal Flying Doctor Service will get a new lease of life. The satellite will also bring telephone services to the outback as well as a back-up service for trunk lines between major cities. Unfortunately, the more imaginative aspects of satellite telecommunications such as "teleconferencing", direct radio contacts and electronic news gathering are ruled out in this satellite because of its frequency allocation and limited number of transponders.

The principal government user of Aussat will be the Australian Broadcasting Commission, which has reserved all the four high-power transponders on the first satellite for its Homestead and Community Broadcast Satellite Service. The beneficiaries will be farmers and station-owners who can afford A\$1,000 for the purchase of a 1.2-metre diameter recep-

tion dish. For the rest of Australian viewers, the satellite will bring more of the same; the Australian Broadcasting Commission is likely to increase the proportion of its programmes relayed in real time, rather than on film or tape, to its network. On the other hand, Aussat may facilitate the production of special-interest programmes for small groups such as ethnic communities, for which there is insufficient local appeal but which may be viable on a national basis.

Other public users will be Telecom, who will provide the remote telephony and business services, the Department of Transport, which will use the facility for aeronautical and marine communications and the state police departments.

The commercial television stations are expected to be the principal private users. There is, however, the possibility of using

the high-power transponders on the second satellite on a pre-emptive basis, in which case the fourth satellite will certainly be needed. Significantly, Aussat will provide the first opportunity for a private operator to compete with Telecom. At present, legislation ensures that Telecom has a monopoly in all landlines and terrestrial microwave links. However, Telecom has a statutory obligation to weight its charges for profitable services in order to cross-subsidize telephone services in rural areas. A competitor, not hampered by these obligations nor by having to contend with the growing union activism within Telecom, could under-cut Telecom for its business services via satellite and still make massive profits.

The substantial private equity in Aussat raises political questions of regulating ownership, access and frequency allocation. The satellite, by enhancing television networking, will undermine the position of commercial stations not having access to it. Consequently there is a real danger that the media, now already in a few private hands, will be even further concentrated. Another problem to be tackled is the possible piracy of the downlink beam by neighbouring countries or illegitimate access to international and overseas databanks. Australian legislators will have to resolve these problems with little by way of precedent.

Vimala Sarma