

universities, as recommended by a Cabinet committee under the chairmanship of Dr C. M. van der M. Brink, is causing some anxiety and upheaval.

Traditionally, South African university faculties of agriculture have been supported by the Department of Agriculture Technical Services, but other university departments have been financed by the Department of National Education. But Dr Brink's committee has now recommended that all the agriculture faculties in South African universities — those at the universities of Pretoria, Orange Free State, Natal and Stellenbosch—be fully incorporated into the universities with which they have been linked.

Dr Brink, who is now President of the South African Council for Scientific and Industrial Research, also recommended that there should only be six chairs of agriculture in each faculty—there are at present between 13 and 20 at each of the four universities.

The committee's recommendations have now been accepted by the Cabinet and all faculties of agriculture have to be incorporated into the university structure by April 1, 1973. The details of the incorporation are being left to the universities but there is an understanding that any staff not supported by the universities will continue to be financed by the Department of Agriculture Technical Services.

The incorporation of the agriculture departments into the university system is also complicated by a review of university finances now taking place. The van Wyk De Vries commission has been sitting since 1969, but so far there are no signs of its recommendations.

Before any major decisions are taken on the future of the departments of agriculture, it is important to know how students are to be subsidized in future. Agriculture departments have attracted only small numbers of students in recent years so that there is a low staff-student ratio. Thus the cost of training students is relatively high, between R1,600 and R3,900 each year. (The highest cost in other fields is R1,100 a year for dental students.)

The Department of National Education is unlikely to support agricultural education at this cost, whence the pressure to reduce the number of departments. Some universities hope to retain all or nearly all of their departments, but this is probably wishful thinking. It is even possible that the Department of National Education will not be able to finance even the six departments recommended by Dr Brink's committee.

Efforts to avoid the inevitable by transferring some of the agriculture departments to other faculties are unlikely to succeed, as this will merely transfer the financial burden to another

faculty probably equally short of funds.

With the April 1 deadline approaching, the picture becomes increasingly confused. Some much-needed light can be thrown on the issues if the van Wyk De Vries commission reports soon.

#### SOVIET SCIENCE

## Joint Mission

from our Soviet Correspondent

THE announcement last week of a four-day joint Apollo-Soyuz space mission in 1975, to be made by Cosmonaut Vladimir Shatalov (veteran of the Soyuz-8 and Soyuz-12 missions), highlights considerable background work which has been taking place in the Soviet Union and the United States since the proposal for a joint mission was first envisaged. The flight plan announced by Major Shatalov is essentially that described by Academician B. Petrov in *Pravda* (August 2, 1972). The flight will take place "in the second half of 1975". The Soyuz craft, with a two-man crew, will be launched first. The Apollo craft with a three-man crew will be launched some 7.5 hours later, although contingency arrangements will permit the Apollo launch to be deferred for up to 48 hours if necessary. Apollo will orbit for about 24 hours before docking with Soyuz. After docking, the joint craft will be operated as a single unit, the two crews working together on scientific experiments for two or three days. Afterwards, each craft will return separately, Soyuz to make a "dry" landing within the Soviet Union and Apollo to splash down in the Pacific.

According to Academician Petrov, work is already in progress on the mechanics of the docking and on standardizing the atmosphere for the joint spacecraft. Soviet spacecraft use air, at normal pressure, whereas the Apollo missions have so far used pure oxygen at reduced pressure. Soviet specialists are hoping that the Americans will consider changing their system. If the Americans insist on pure oxygen, however, an additional airlock will have to be included between the two craft.

In addition to the technical difficulties of docking, special attention is already being given in the Soviet Union to the problems of communication. Petrov's suggestion is that each crew should be thoroughly schooled in the language of the other, with considerable practice to obtain rapid and accurate response to verbal commands. It is interesting, however, that this discussion of the working language suggests a greater emphasis on manual control and less reliance on automation than has been usual in Soviet manned missions to date.

Little has been said so far about

psychological problems—indeed, for a mission of a few days' duration, these may not be significant. If Major Shatalov's prediction of a joint US-Soviet manned mission to Mars by the end of the century reaches the planning stage, however, these factors will have to be considered. The Soviet Union has already done a considerable amount of work on the psychological stresses of simulated deep space flight. Some years ago they claimed that it is unwise to allow crews to play chess or other games of intellectual skill, because these tended to result in disputes, ill-feeling and an inability to cooperate. (Recreations of a less exacting type, where "defeat" would not be felt as a personal failure, were recommended.) Evidently the joint Mars mission is unlikely to involve a repeat of the recent Spassky-Fischer match.

#### ARCHITECTURAL ASSOCIATION

## Thriving School

THRIVING on adversity, the Architectural Association's school has not only survived the decision in July by Mrs Margaret Thatcher, Secretary of State for Education and Science, that local education authorities need no longer pay the school's fees of £580 a year, but has expanded in the process.

Mrs Thatcher's decision meant that 128 students who had places at the school for the current year and who were eligible for local authority grants were no longer sure that these would be paid, but in fact 100 of them have received total or partial grants for fees and only sixteen have been refused; twelve cases are still pending.

The problem arose because it only costs a local education authority between £90 and £180 in fees to send a student to an architectural school attached to a university or polytechnic, but it costs £580 to send a student to the Architectural Association's school. The discrepancy arises because the association is an independent institution, receiving no grant aid, and therefore has to charge a realistic fee. Some local education authorities objected to paying the extra amount, and Mrs Thatcher's decision in fact freed them from their obligation to do so (see *Nature*, 238, 241; 1972). But it now transpires that most of the sixty local education authorities involved have in fact paid up.

Further, the school has expanded from 465 students last year to 619 students for the current session—60 per cent of them British and the remainder foreign nationals.

But the local authorities have yet to agree to support students for the next academic year.