last month to pay students their stipends, and they are unlikely to be able to repay this money without help.

Last week, Yeltsin signed another decree, under which Russia has taken control of the Soviet Academy of Sciences, together with all its institutes and structures on Russian territory. Unlike the former academy, whose members constituted an elite, the Russian Academy will be a more democratic institution. At the same time, the administrative staff and its institutes and laboratories will be trimmed.

Although Yeltsin said in a special decree that social guarantees should be provided for the employees of academic institutions to cushion the effects of the transition to a market-orientated economy, the scientific community is worried about its future. The Russian budget is limited and proposals for the creation of special funds to finance fundamental research exist only on paper.

There is reason to believe that Soviet scientists may soon begin to leave the country in large numbers. According to Igor Makarov, chief secretary of the former Soviet Academy of Sciences, 564 research fellows of academic institutions have left the Soviet Union this year. Some of them have signed long-term contracts and many may never return. Although this is not a large number by Soviet standards, it is more than double that in 1989. Makarov also said that no foreign scientists are coming to work at Soviet institutions.

Another Soviet academic, Eduard Mirsky, said at a recent press conference that working abroad is now the only way to preserve scientists for science. In any case, the Russian leaders are said to have approved a programme for temporary employment (for terms ranging from 12 months to six years) of Soviet intellectuals at US universities, research centres and corporations on a special visa.

For some time now, Soviet scientists have been going abroad to work at the invitation of developing countries wanting to develop advanced technologies that will allow them to break into world markets. Such invitations have come from Greece, Australia, Egypt and Brazil, but many of them are personal, so the extent of this emigration is unknown, although there is reason to believe that it is growing.

A university in São Paulo, Brazil, is currently negotiating two-year contracts with a group of Soviet scientists. According to José Antonio Pacheco, head of the commission selecting potential candidates, the university is looking for specialists in high technology, particularly superconductivity. And although it has been officially denied that Soviet nuclear scientists have been invited by Iraq and Iran, Academician Alexander Fokin says that a braindrain in these and other fields connected with military purposes may pose a great threat.

## Looking for livers, kidneys

## Hong Kong

A SERIOUS shortage of organs for transplants is causing Hong Kong patients to go abroad, some of them to receive organs from executed convicts in China. In response, some Hong Kong doctors are calling for a system in which authorities can remove organs from anyone who dies unless that person had signed a form stating he did not wish to donate his organs.

Tradition among the Chinese who make up 98 per cent of Hong Kong's population demands that bodies be interred whole, and although there are signs that younger, better-educated residents are increasingly willing to pledge their own organs and to



give permission to remove kidneys and other organs from next-of-kin who die suddenly, the general opposition to organ removal has left patients needing transplants with little hope.

Last year in government hospitals, only 55 patients out of more than 1,000 undergoing kidney dialysis received transplants; about 600 patients a year die of kidney failure in Hong Kong. Last month, a team at the University of Hong Kong performed the territory's first two liver transplants, but that success only emphasized the organ shortage: ten patients had died in the two months before the operations because no livers suitable for transplant had become available.

The lack of organs has forced many kidney patients to travel overseas for transplants. The more prosperous head for Australia, North America and Europe, but the less well off frequently opt for China—often with the encouragement of Hong Kong renal specialists.

Doctors in the public medical establishment frown on that option for several reasons, one being that the Chinese transplanted organs are often obtained from executed convicts. Furthermore, Chinese hospitals do little of the tissue typing regarded as essential to reduce the risks of rejection of transplanted organs, and medical management of patients returning to Hong Kong is complicated by the fact that they often do not bring their complete medical records back with them. Worst of all in the eyes of local doctors and health administrators is the danger that transplant organs will be bought and sold.

Already agents have started to entice local doctors to send transplant patients to a few specific hospitals in China. Earlier this year, a Hong Kong businessman sent a letter to local specialists offering kidney transplants for HK\$100,000 (\$13,000) at the Eastern China Military Region Main Hospital in Nanjing.

That type of commercialization has drawn nearly universal condemnation in Hong Kong. "It's appalling that these things can be allowed to happen," said M. K. Chan, a kidney specialist who has sent patients directly to Chinese hospitals in the past. "It's exactly the situation we don't want to see because you have a middleman charging commission. When we refer patients to China for transplants, the money goes to the hospitals."

The Hong Kong medical community has responded by calling on the government to change its rules on voluntary donations of organs. The territory now has an 'opt-in system', in which individuals who wish to donate their organs in the case of sudden death must obtain and sign a card. Few residents know how to obtain the cards, however, and even when they sign it, under existing legislation the card is not a legal document, and the next-of-kin decides what is done with the body.

Leong Che-hund, a local physician and legislator, and several of his colleagues are calling for an 'opt-out system' similar to that in Singapore, in which authorities would assume that an individual wants to donate his organs unless he signs a form stating otherwise. The government is resisting such an approach, citing its unpopularity with Hong Kong citizens and arguing that medical authorities already approach the next-of-kin of all potential organ donors whether they signed a donor card or not.

Instead of the opt-out system, the government is looking at a number of less drastic options to deal with the organ shortage. It is drafting legislation, which should take effect in a few months, that will prohibit commercial organ trading, and the Health and Welfare Branch is exploring ways of publicizing its donor card scheme and of improving distribution of the cards. Recently, public utilities denied a request to include donor cards with their bills, and now government officials are looking into the legality of distributing the cards with government documents such as water bills.

**Peter Gwynne**