

## Plunging stock market halts break-up

Tokyo

THE plunging Tokyo stock market has put an end to plans to break-up Japan's domestic telecommunications giant, Nippon Telephone and Telegraph (NTT), at least until 1996.

Last month, an advisory committee to the Ministry of Post and Telecommunications recommended that to introduce fairer competition in the domestic telecommunications market NTT should be broken up into three separate companies, one to handle local services, one for long-distance telecommunications and a third for mobile telecommunications. The ministry expressed its determination to carry out the plan despite strong opposition from the Ministry of Finance, the major stockholder in NTT, industrialists, NTT union members and politicians in both the ruling and opposition parties (see *Nature* 344, 370; 29 March 1990).

The Ministry of Finance was concerned that future sales of NTT shares to the public, a major source of government revenue, would be adversely affected by the break-up. And no sooner was the break-up plan announced than the Tokyo stock market went into its second nosedive of this year, dragging down NTT stock, the highest priced shares on the market, to their lowest value ever.

When the government sold the first batch of NTT shares in 1986 they were priced at ¥1.197 million each (about \$7,500 at the current exchange rate). A year later, the price had soared to ¥3.18 million and the government raked in thousands of millions of dollars from the public when a second batch of shares was sold. The funds were invested in public works.

But since then the price has been falling steadily and with last month's stock market crash the stock reached an all-time low of ¥1.06 million. Some analysts say that by releasing the shares in dribs and drabs, the finance ministry, which still holds two thirds of NTT's stock, inflated the value of the shares and swindled the Japanese public, many of whom have lost tens of thousands of dollars through buying NTT shares at their peak price.

Whatever the case, the recent crash in the price of NTT shares gave the ministry of finance and other NTT supporters the chance to strangle calls for break up. The small mobile telecommunications section of NTT will probably be separated in the next year or so. But all talk of separating the local and long-distance operations of the company have been shelved until at least the end of fiscal year 1995 (March 1996) and the Japanese public can look forward to continuing to pay some of the highest domestic telecommunication charges in the world.

David Swinbanks

## Science and social renewal

Moscow

THE annual general conference of the Soviet Academy of Sciences broke new ground this year by the attendance of representatives of academic institutes and of the union of workers of public education as well as academicians and corresponding members. Academy vice-presidents V. Kudryavtsev, K. Frolov, O. Nefyodov and V. Koptuyug, the main speakers, tackled the novel theme (for a general conference) of the role of science in social renewal. *Perestroika*, the speakers said, needs a solid scientific foundation. But science must win back the prestige it has lost over the long years of dogma-ridden stagnation and during the five years of *perestroika*, which have seen few meaningful changes either in the socio-economic sphere or in science and technology.

Social sciences were much criticized. Developments in the West have been overlooked for ideological reasons, and interest in world science has not been encouraged. Dogmas have obliged scientists to provide scientific backing for the policies of the political leadership. *Perestroika* may have persuaded scientists to re-evaluate their methods and to break many stereotypes, but this process has just begun. A new network of sociological research centres is in place, but plans to organize an institute of the socialist market and a research centre for socio-economic, scientific and technological development are still to be implemented.

Many academy members are involved directly with *perestroika*. The institutes of economic, philosophical, legal and sociological studies are drafting documents for the USSR Supreme Soviet, and there are 59 scientists among the People's Deputies of the USSR, from which the members of the Soviet are drawn. Time will show whether Soviet scientists are able to make radical use of their opportunities to shape Soviet society. But this is a scarce commodity and scientists must quickly regain the nation's trust.

The meeting acknowledged that, in science and technology, the Soviet Union lags behind the Western industrialized states. The unsatisfactory position of science in society, a separation from industry and a dire equipment shortage were blamed. The Soviet economy still resists technical innovation. Last year alone, fundamental research centres proposed 3,000 new ideas and types of equipment, but only a fifth are being used. New problems have arisen. In 1989, the academy's president, G. Marchuk, said, the academy felt its first financial squeeze. Although academic science funding increased by 50 per cent last year, the economic crisis is damaging research programmes. Academic institutes have

suffered in the uncertain climate of *perestroika*, as ministries have switched to self-financing schemes, cutting back research programmes that do not promise fast returns. Research in plasma physics, thermonuclear fusion, earthquake forecasting and space exploration are threatened.

Support for fundamental research from defence-related industrial branches, formally an important source of funds, has been cut. The Institute of the Optical Properties of the Atmosphere of the Academy's Siberian branch had been fulfilling orders for the defence branches for 20 years, said its director Academician V. Zuyev. Permanent clients, he said, were well aware that financing applied science programmes exclusively was not useful in the long term. But this changed suddenly, when contracts to last until 1992 were annulled without the right of appeal.

Speakers also argued that there is little genuine competition for funding in the academy. Project funds are divided equally among many research centres, rather than being awarded on merit.

A 'brain drain' and the falling prestige of researchers reflect the vulnerability of Soviet science, speakers suggested. By world standards, wages are low and poor equipment affects morale. In 1989, 246 associates of academic institutes left for a term abroad of up to five years. This process would not hamper Soviet science if it were two-way, but it is not. The meeting asked the academy's presidium to study the problem and regulate foreign trips. This may mean a return to restrictions. A more democratic approach would be to create favourable conditions to attract foreign scientists and young Soviet researchers, many of whom escape via a second brain drain: to the new cooperative ventures, where wages are higher.

The meeting highlighted the sores of Soviet science and its decisions were adopted unanimously. But there are worries that, as in the past, resolutions will not be implemented. The academy is calling for greater state support, and a legal framework to give scientists a protected position in Soviet society. These claims may be justified, but it is unclear if the state has the necessary resources. Although the adoption of a Law on Science is expected, the Supreme Soviet has a busy schedule. The meeting also resolved to return academy membership to scientists expelled for political reasons, mostly under Stalin's regime, and to commemorate scientist's who were victims of repression. A memorial is to be built and a collection of biographies is planned for 1991. The academy also suggested naming streets in Moscow and other cities after scientists destroyed by Stalin. **Yuri Kanin**

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